

HCD-101

SERVICE MANUAL

*AEP Model
UK Model
E Model
Tourist Model*



- HCD-101 is the CD PLAYER, TUNER and AMPLIFIER sections in CMT-101.

Model Name Using Similar Mechanism	NEW
CD Mechanism Type	CDM50
Optical Pick-Up Type	KSS-313A

SPECIFICATIONS

Tuner section

Tuning range

2 band model

European model:

FM : 87.5-108MHz
(50kHz step)

AM : 522-1,611kHz

Other models:

FM : 87.5-108MHz
(50kHz step)

AM : 531-1,602kHz
(at 9kHz interval)

530-1,710kHz
(at 10kHz interval)

3 band model

FM : 87.5-108MHz
(50kHz step)

MW : 522-1,611kHz
(at 9kHz interval)

LW : 144-288kHz
(at 3kHz interval)

Intermediate frequency

FM : 10.7MHz

AM : 450kHz

Aerial terminals

FM : 75Ω unbalanced
AM : External aerial
terminal

Timer

Quartz lock system

Timer setting

One-minute step

Sleep timer

10-minute step, max.
90minutes

CD player section

System

Compact disc digital
audio system

Laser

Semiconductor laser
($\lambda=780\text{nm}$)

Laser output power

Less than 44.6μW*

* This output is the value measured at a distance of 200mm from the objective lens surface on the optical pick-up block with 7mm aperture.

Frequency response

5Hz-20kHz

Signal to noise ratio

More than 90dB

Harmonic distortion

Less than 0.05%

Amplifier section

European model:

DIN power output

15+15 W (4Ω at 1kHz, DIN

Continuous RMS power output

21+21 W (4Ω at 1kHz, 10%
THD)

Music power output

26+26 W

Other model

Rated RMS power output 16+16 W (4Ω at 1kHz, 1% THD,
AC240V/AC120V)

Reference RMS power output

22+22 W (4Ω at 1kHz, 10% THD,
AC240V/AC120V)

Inputs

VIDEO/PC IN jack : Stereo
phone jack, sensitivity 500mV,
impedance 47kΩ

— Continued on next page —

COMPACT COMPONENT SYSTEM



SONY®

TABLE OF CONTENTS

Outputs	VIDEO/PC OUT jack : Stereo phone jack, 250mV, 1k Ω DIGITAL OUT (CD OPTICAL OUT): Square optical connector jack, -18dBm, wave length 660nm PHONES (headphones) jack : Stereo mini jack, accepts head phones of 8 Ω or more.
General	
Power requirements	
European model	220-230V AC, 50/60Hz
Other models	110-120V or 220-240V AC, 50/60Hz adjustable with voltage selector
Power consumption	66W (when connected to TC-TX101, MDS-MX101)
Dimensions	Approx. 142×125×260mm (w/h/d) incl. projecting parts and controls
Mass	Approx. 4.1kg

SERVICE NOTE

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body. During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing

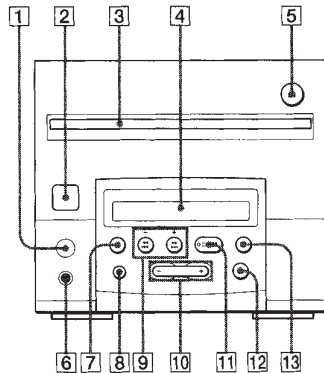
- Keep the temperature of soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

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SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK \triangle OR DOTTED LINE WITH MARK \triangle ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

Step 1: Name of control and display



- 1** Remote control signal sensor
- 2** Power switch
- 3** CD insertion slot
- 4** Display window
- 5** ▲ (CD EJECT) button
- 6** PHONES terminal
- 7** BAND button
- 8** DBFB button
- 9** ◀◀◀/▶▶▶ (Cue-up musics, or fast rewind / fast forward) button
- 10** VOL+/- button
- 11** ▶|| (CD playback or pause) button
- 12** FUNCTION button
- 13** ■ (CD stop) button

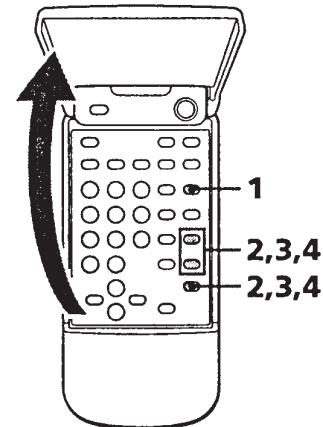
Step 2: Setting the time

Before turning on the system, you must set the time beforehand to use the timer function.

The clock is on a 24 -hour system for the European model, and a 12-hour system for other models.

The European model is used for illustration purpose.

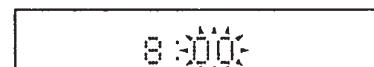
Remote (inside)



- 1** Press TIMER SET.
- 2** Press TIMER + or - to display "CLOCK" and press ENTER.
The hour indication begins flashing.

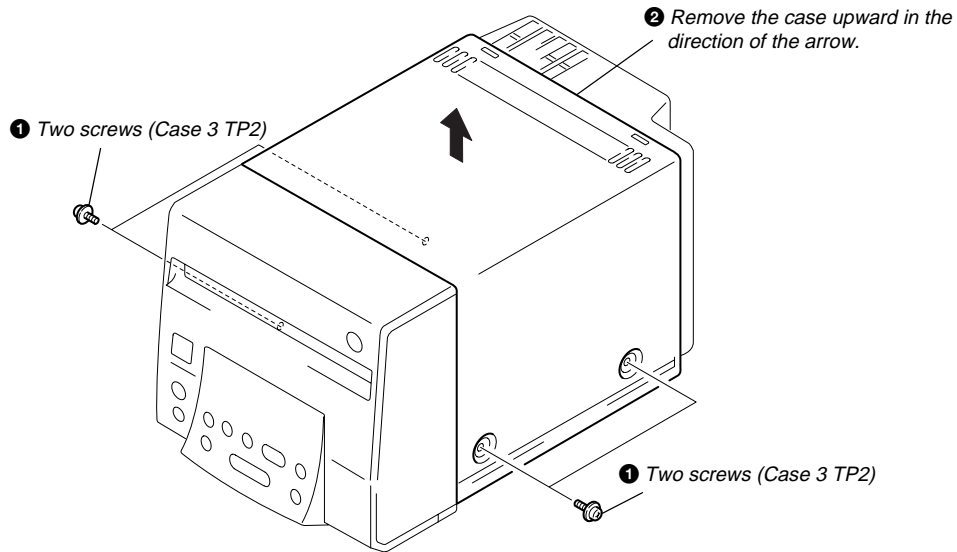


- 3** Set the current hour by pressing TIMER + or - and press ENTER.
The minute indication begins flashing.

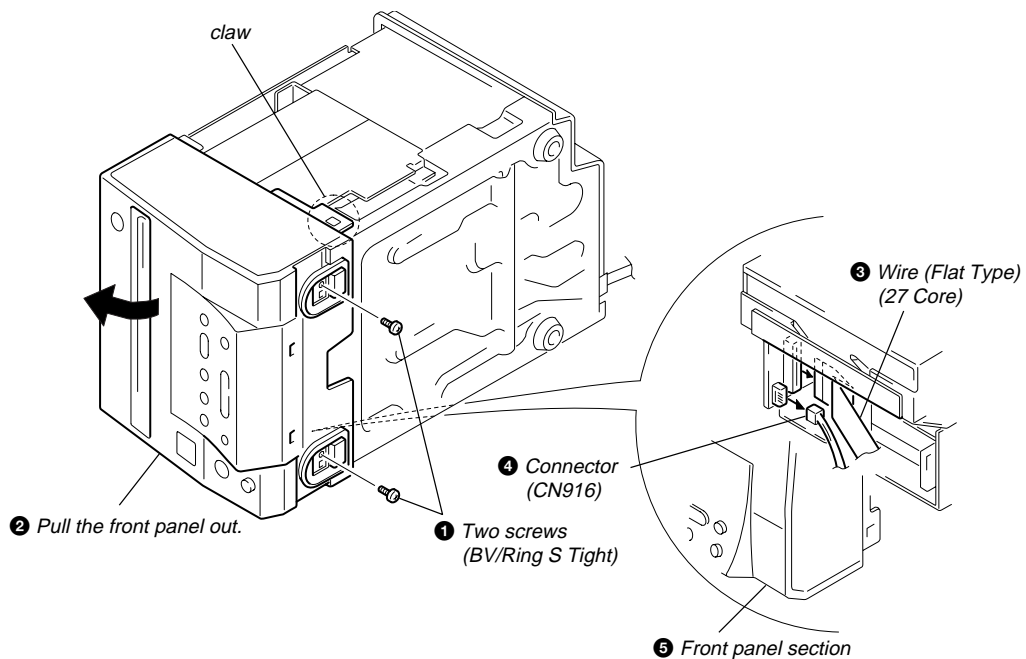


SECTION 2 DISASSEMBLY

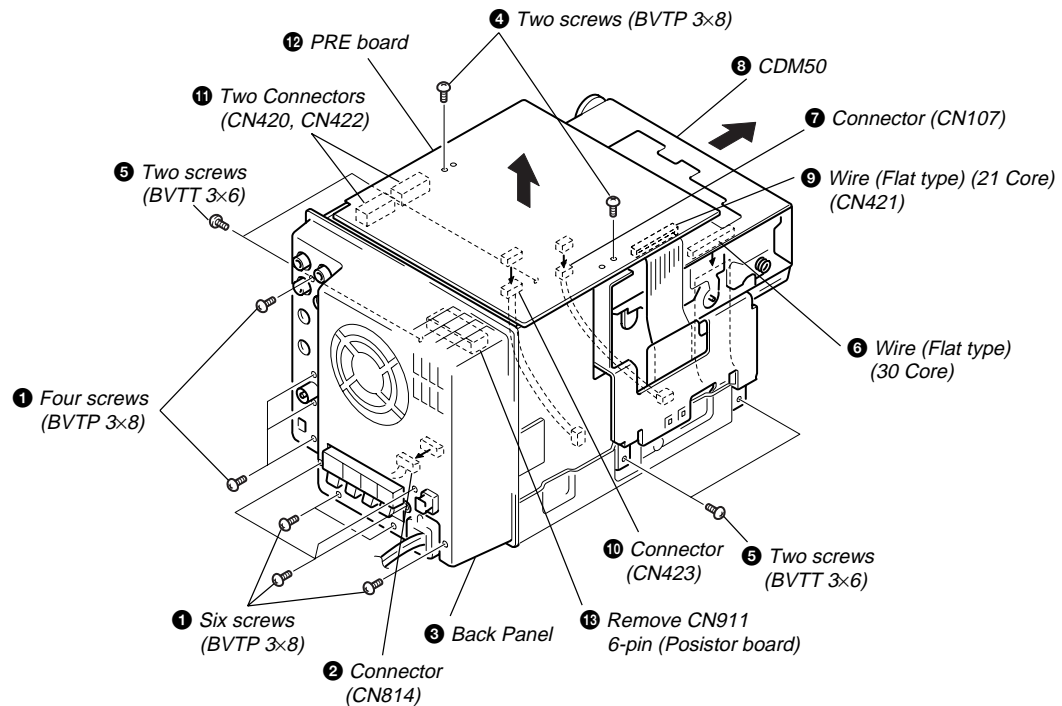
2-1. CASE



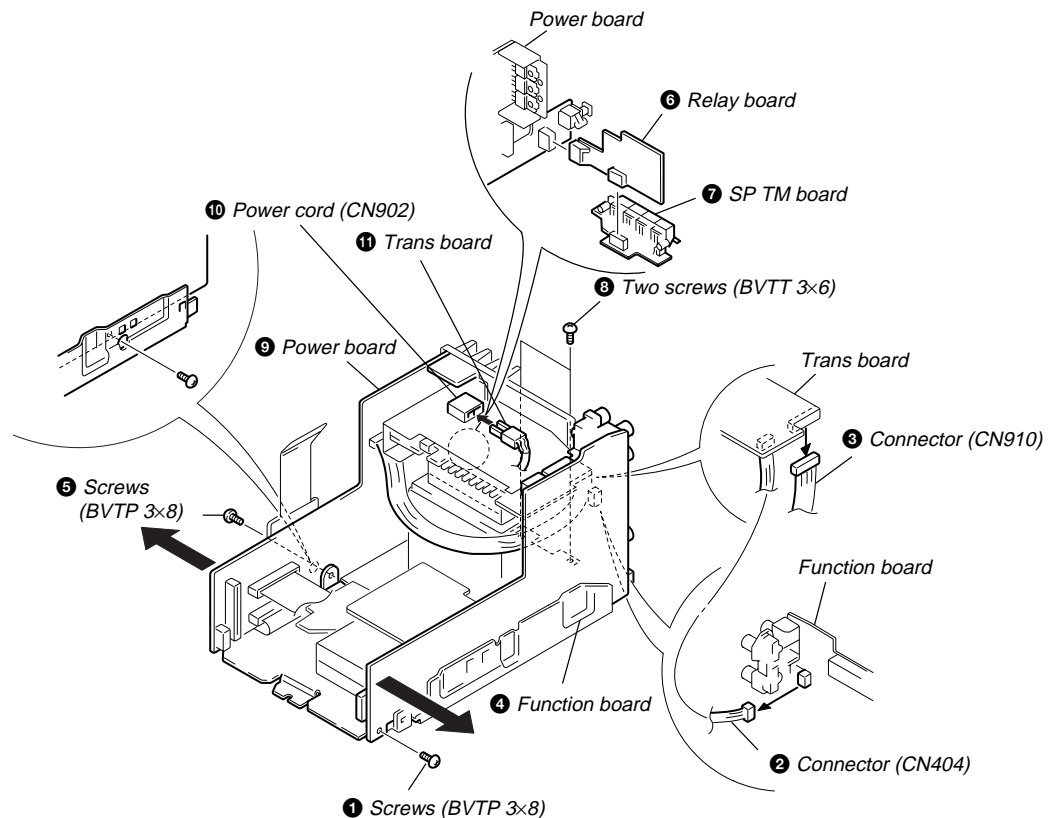
2-2. FRONT PANEL SECTION



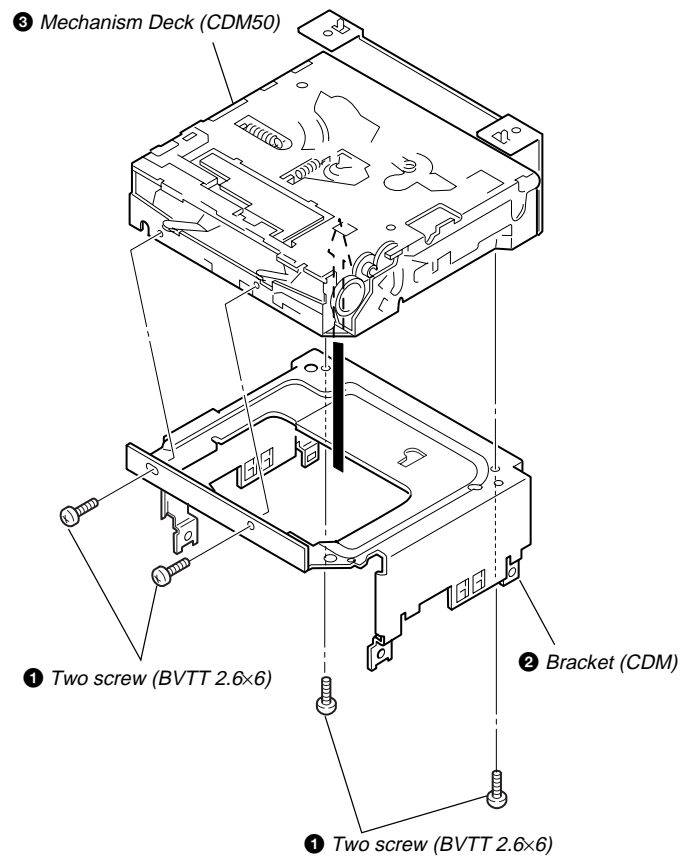
2-3. PRE board



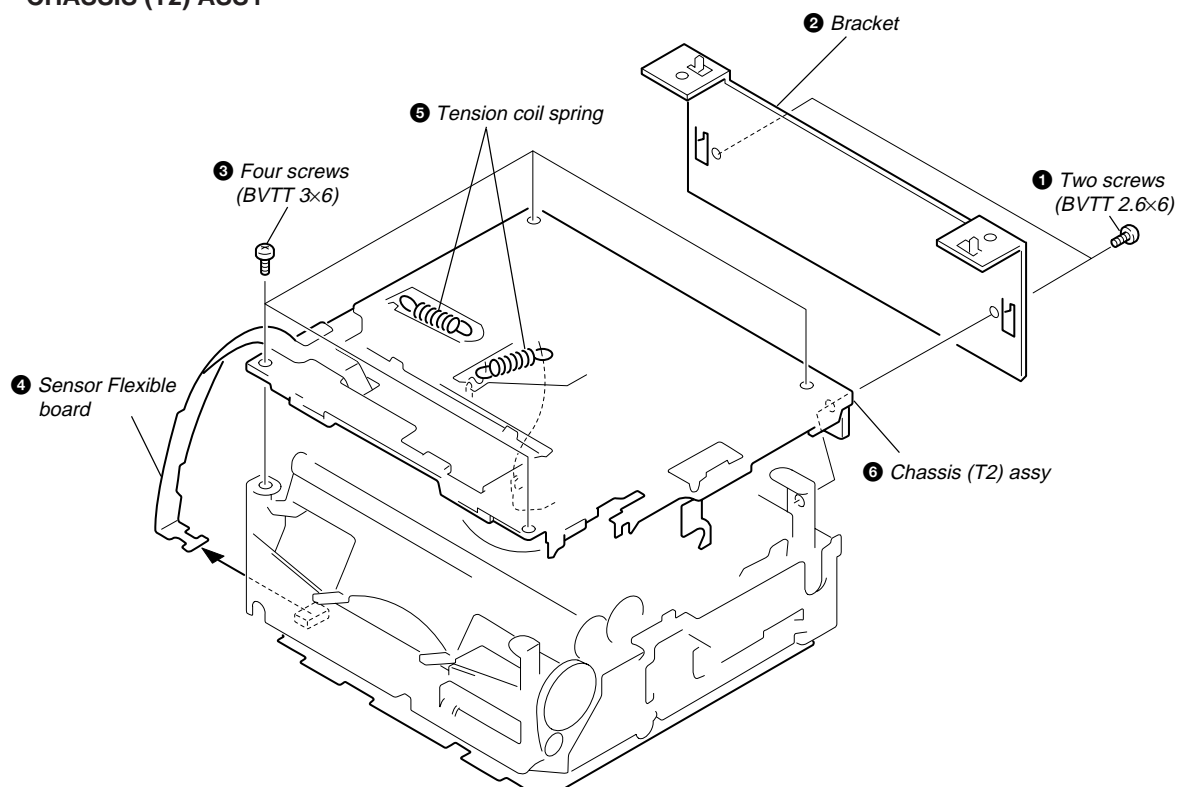
2-4. FUNCTION board, RELAY board, SP TM board, TRANS board, POWER board



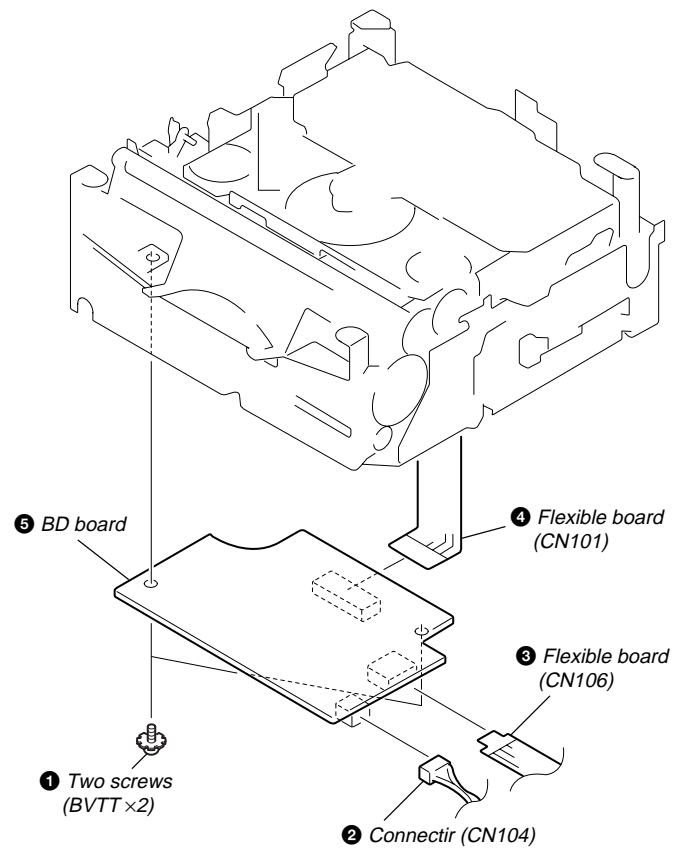
2-5. MECHANISM DECK (CDM50)



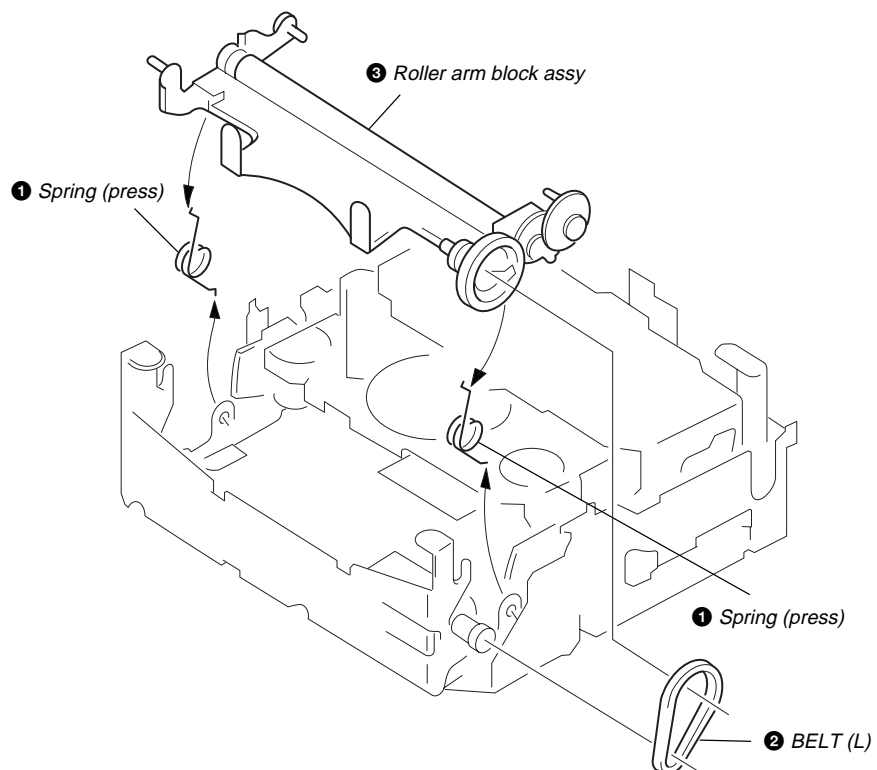
2-6. CHASSIS (T2) ASSY



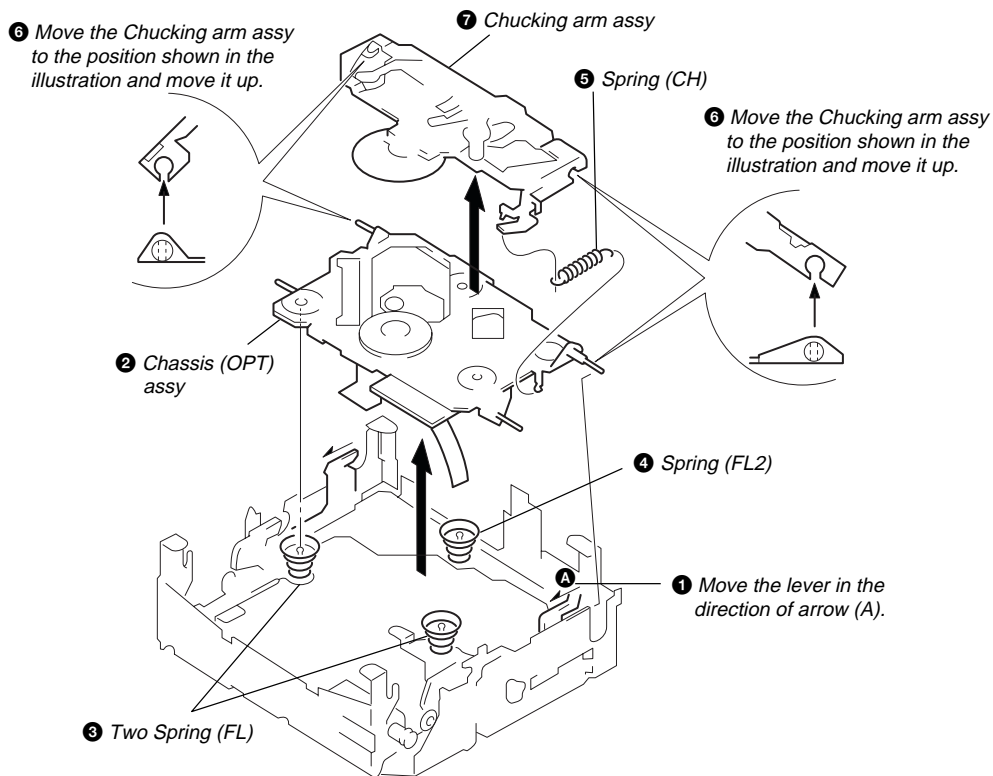
2-7. BD board



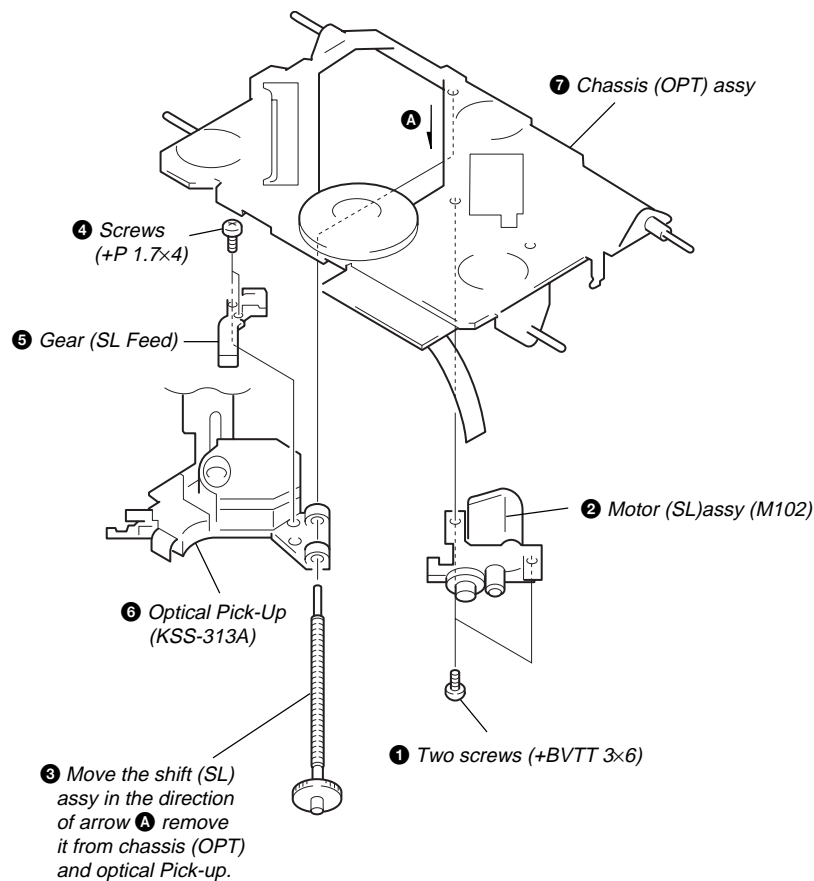
2-8. ROLLER ARM BLOCK ASSY



2-9. CHASSIS (OPT) ASSY, CHUCKING ARM ASSY



2-10. MOTOR (SL) ASSY (M102), OPTICAL PICK-UP (KSS-313A)



SECTION 3 TEST MODE

There are two methods to enter the TEST mode.

- How to Enter the Test Mode - 1
Remove the AC power cord from wall outlet, and press [EJECT ▲]. While pressing [EJECT ▲], connect the AC power cord to wall outlet.
 - How to Enter the Test Mode - 2
(This method toggles between “Entering the TEST Mode” and “Exiting the TEST Mode”.)
Turn on the main power. While pressing [TUNING +], press [DBFB], release hand from [DBFB] then press [FUNCTION]. (Keep pressing [TUNING] all the way.)
Pressing these buttons again in the same order exits the TEST mode.
 - * The small ATT segment lights in the center top of display during the TEST mode.
 - * To exit the TEST mode, disconnect the AC power cord from wall outlet, or use “How to Enter the TEST Mode - 2”.
1. Audio volume control setting (Can be adjusted only during TEST mode.)
Press [CD STOP ■] and [VOL-] at the same time
→ VOL MINIMUM appears
Press [CD STOP ■] and [VOL+] at the same time
→ VOL MAXIMUM appears
 - * The audio volume data is kept stored even after the main power is turned off.
 2. Audio balance setting (Can be adjusted only during TEST mode.)
Press [CD STOP ■] and [DBFB] at the same time
→ LEFT 10 appears
Press [CD STOP ■] and [FUNCTION] at the same time
→ RIGHT 10 appears
Press [CD STOP ■] and [CD EJECT ▲] at the same time
→ CENTER appears
 - * The audio balance data is kept stored even after the main power is turned off.
 3. Key test and FL display tube test (Can be adjusted only during TEST mode.)
 - Press [VOL-] and [BAND] at the same time→All FL tubes light. Pressing the following key in this status enables key checks as follows.
 - Display depending upon the pressed key

[FUNCTION]	→	KEY NO. 1
[VOL -]	→	KEY NO. 2
[VOL +]	→	KEY NO. 3
[BAND]	→	KEY NO. 4
[TUNING+]	→	KEY NO. 5
[EJECT ▲]	→	KEY NO. 6
[TUNING -]	→	KEY NO. 7
[STOP ■]	→	KEY NO. 8
[PLAY ►]	→	KEY NO. 9
[DBFB]	→	KEY NO. 10
 - [POWER] → Returns to the TEST mode

* Note: After all keys are (KEY No.1 to KEY No.10) tested, CHECK OK!! appears.

The following items have no relation with the TEST mode.

4. Initial setting (All clear of all memories)
Disconnect the AC power cord. While pressing [POWER], connect the AC power cord to wall outlet.

5. Watch operation check (Can be operated only while the main power is off.)
Press [FUNCTION] and [BAND] at the same time. → Watch starts counting.

Various CD tests

Pressing the two keys at the same time enables the various adjustment and test as follows in the TEST mode, and “ATT” segment is flashing.

- 1) Pressing [TUNING-] and [CD EJECT ▲] at the same time :
The present normal tracking balance value (“31” to “36”) is displayed when the above key operation is performed and (TRBAL.) is displayed.

The tracking gain is fixed to “3F” (TOG1 to TOG2: all off)

- 2) Pressing [TUNING-] and [DBFB] at the same time :
(SHUFFLE) is displayed.
 - ADJUSTMENT mode
When the above key operation is performed, the machine enters the ADJUSTMENT mode. The “SHUFFLE” flashes on display tube.
 During the ADJUSTMENT mode:
The CLV gain is not switched to 8 cm. (The CLV gain is fixed to 12 cm always.)
The machine is ready to enter the AF-ADJUSTMENT mode as described below.

- 3) Pressing [TUNING-] and [FUNCTION] at the same time :
(SHUFFLE) and (PROGRAM) are displayed.
 - AF-ADJUSTMENT mode
After the machine enters the ADJUSTMENT mode by the key operation as described in step 2), the machine can enter the AF-ADJUSTMENT mode by pressing the above key operation. [TUNING - /FUNCTION]
The “SHUFFLE” and “PROGRAM” flash on display.

During the AF-ADJUSTMENT mode, the tracking and sled servos are turned off in addition to the ADJUSTMENT mode. The machine stops the GFS error check which is normally performed by software.

- Sled motor check
When disc is removed by pressing EJECT during the AF-ADJUSTMENT mode, the sled can be moved to inner circumference or outer circumference by pressing [TUNING-] or [TUNING+]. At this time, because the microprocessor is not sensing the sled position, be careful when moving the sled not to damage gears and other mechanism.
- 4) Pressing [TUNING-] and [VOL-] at the same time :
 - No CDM mode
[1] is displayed.
When the above key operation is performed, the control on the slot mechanism which takes in and ejects a CD disc is stopped.
At this time “1” on the display flashes.
 During the no CDM mode,
The TOC data is deleted by the [CD EJECT ▲] key.
(When the TEST mode is cleared and a CD disc is inserted, machine reads the TOC again.)

5) Pressing [TUNING-] and [VOL+] at the same time :

- Aging mode

The machine enters the aging mode by inserting a CD disc and performing the above button operation. The display starts counting the aging operation with COUNT display, and "REPEAT" flashes.

Aging operation

1. Machine takes a disc into the machine.
2. Reads the TOC.
3. Accesses to the last track.
4. Plays back the last 2 seconds.
5. Ejects the disc.

The one complete operation from step 1 to step 5 is one count. The cycle is repeated. However, steps 2 to 4 are skipped in all modes other than the CD function.

Steps 1 and 5 are skipped in the no CDM mode.

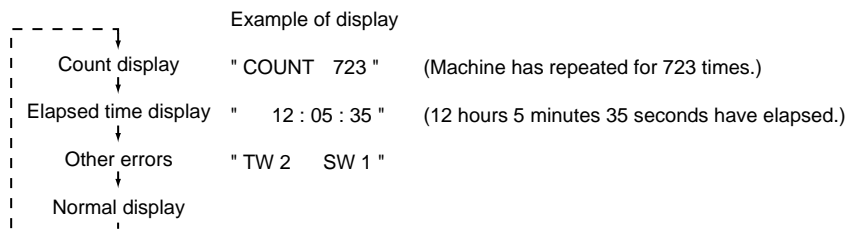
The aging operation ends when an error occurs.

Aging error display

"Load Error"	: Loading operation is not completed in four seconds.
"Eject Error"	: Eject operation is not completed in four seconds.
"Q TOC Err"	: The Q data could not be read during eight seconds. (During TOC read)
"Q SRCH Err"	: The Q data could not be read during eight seconds. (During track search)
"Q PLAY Err"	: The Q data could not be read during eight seconds. (During PLAY)
"FOK UP Err"	: Focus could not be locked in. (During setup)
"FOK TOC Err"	: Focus is un-locked many times. (During TOC read)
"FOK SRCH Err"	: Focus is un-locked many times. (During track search)
"FOK PLAY Err"	: Focus is un-locked several times. (During play)
"GFS UP Err"	: GFS error. (During setup)
"GFS TOC Err"	: GFS error. (During TOC read)
"GFS PLAY Err"	: GFS error. (During play)

Display selection during aging

The display can be switched by pressing the [TUNING-] and [FUNCTION] at the same time :



** Other troubles

"TW*SW*"

TW : Numbers of times that the machine could not read TOC.

SW : Numbers of times that the machine could not complete the track search within 16 seconds.

To exit the aging mode and to return the TEST mode, press [TUNING -] and [VOL +] at the same time.

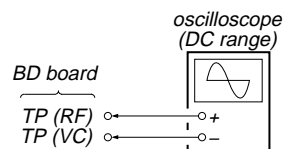
SECTION 4 ELECTRICAL ADJUSTMENTS

CD SECTION

Note:

1. CD Block is basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.
5. When optical pickup is replaced during repair, perform the focus bias adjustment.

Focus Bias Adjustment

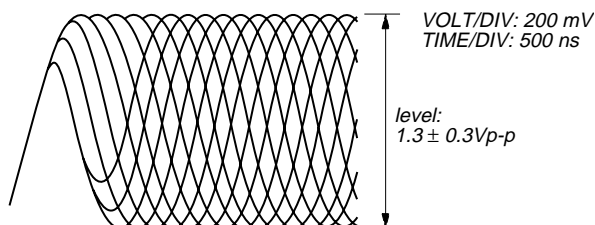


This adjustment is to be done when the optical block is replaced.

Adjustment procedure:

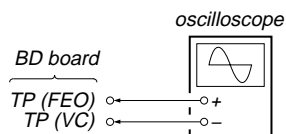
1. Connect oscilloscope to test point TP (VC) and TP (RF) on BD board.
2. Turned power switch ON. (Stop state)
3. Insert disc (YEDS-18) and press the ►|| button.
4. Adjust RV101 so that the oscilloscope waveform is as shown in the figure below (eye pattern).
A good eye pattern means that the diamond shape (◇) in the center of the waveform can be clearly distinguished.

• RF signal reference waveform (eye pattern)



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

S-Curve Check

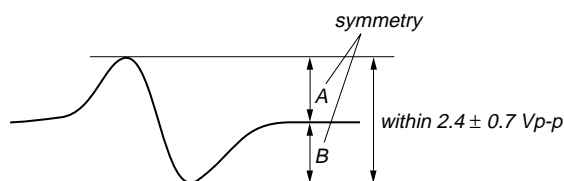


Procedure:

1. Connect as oscilloscope to test point TP (VC) and TP (FEO) on BD board.
2. Connect a lead wire between test point TP (FOK) and Ground.
3. Turned Power switch on.
4. Insert disc (YEDS-18) and turned Power switch on again to actuate the focus search. (actuate the focus search when disc table is moving in and out.)

5. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm that peak to peak level is within 2.4 ± 0.7 Vp-p.

S-curve waveform

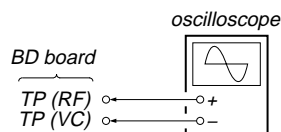


6. After check, remove the lead wire connected in step 2.

Note:

- Try to measure several times to make sure that the ratio of A:B or B:A is more than 10:7.
- Select a longer sweep time and increase the brightness to obtain best waveform.

RF Level Check

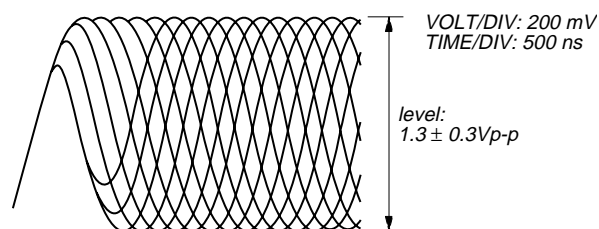


Procedure:

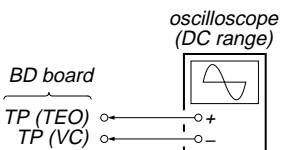
1. Connect oscilloscope to test point TP (VC) and TP (RF) on BD board.
2. Turned Power switch on.
3. Insert the disc (YEDS-18) and press the ►|| button.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct.

Note: Clear RF signal waveform means that the shape “◇” can be clearly distinguished at the center of the waveform.

RF signal waveform



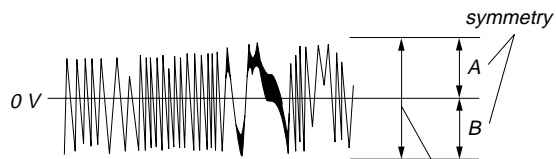
E-F Balance (Traverse) Check



Procedure:

1. Set up the TEST mode step 3) AF-ADJUSTMENT. (see page 9.)
2. Connect as oscilloscope to test point TP (TEO) on BD board.
3. Turned Power switch on.
4. Insert the disc (YEDS-18) in and press the ►|| button.
5. Confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0V dc, and check the amplitude.

Traverse waveform



amplitude: 300 ± 100 mVp-p

specified value: $\bullet \frac{A-B}{2(A+B)} \times 100 = \text{less than } \pm 7\%$

$\bullet A+B = 300 \pm 100$ mVp-p

Focus/Tracking Gain Adjustment

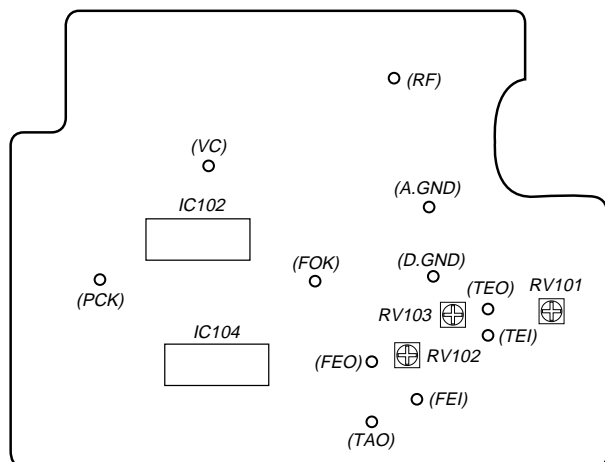
This gain has a margin, so even if it is slightly off. There is no problem.

Therefore, do not perform, RV102 and RV103 adjustment.

Please note that it should be fixed to mechanical center position when you moved and do not know original position.

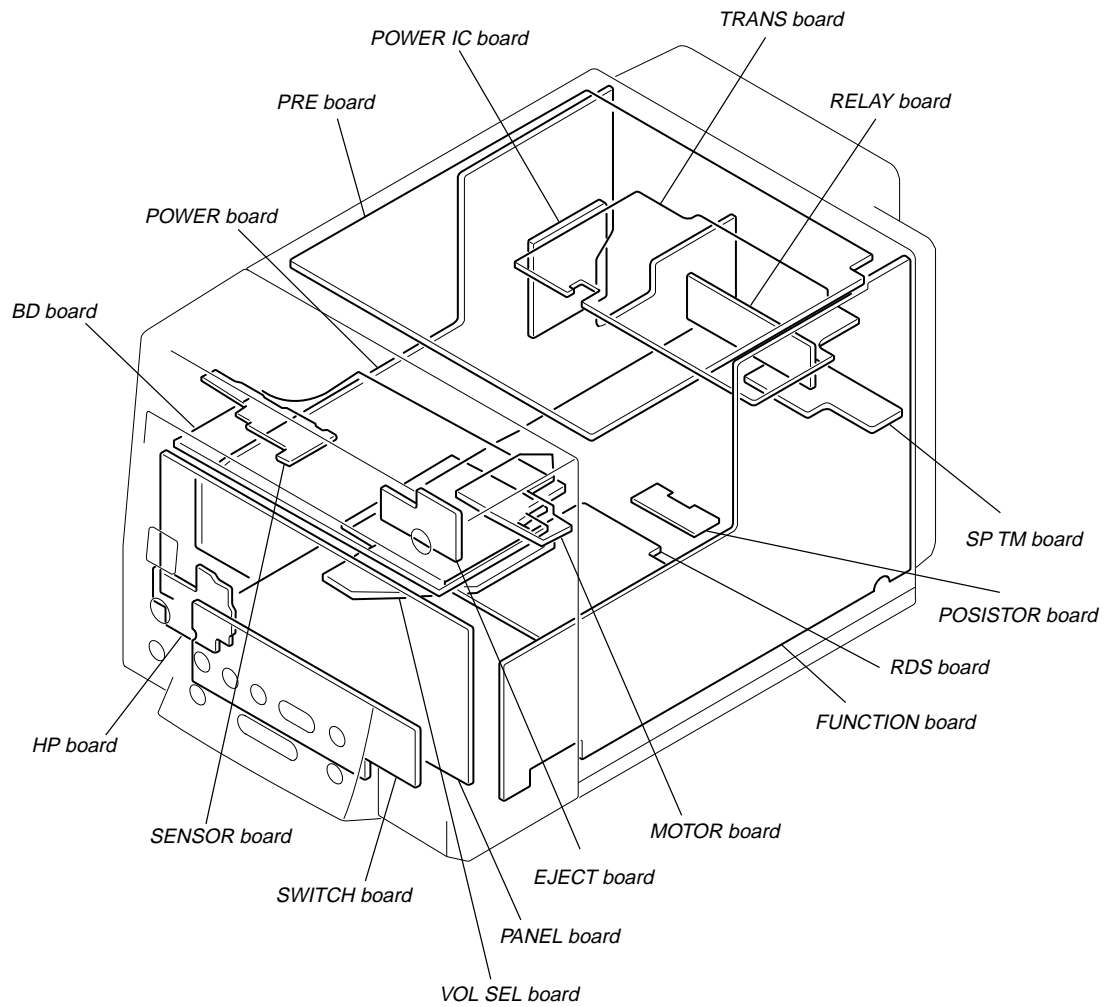
Adjustment Location:

[BD BOARD] — Component side —



SECTION 5 DIAGRAMS

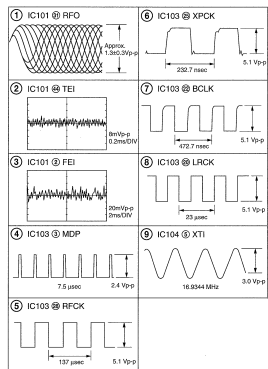
5-1. CIRCUIT BOARDS LOCATION



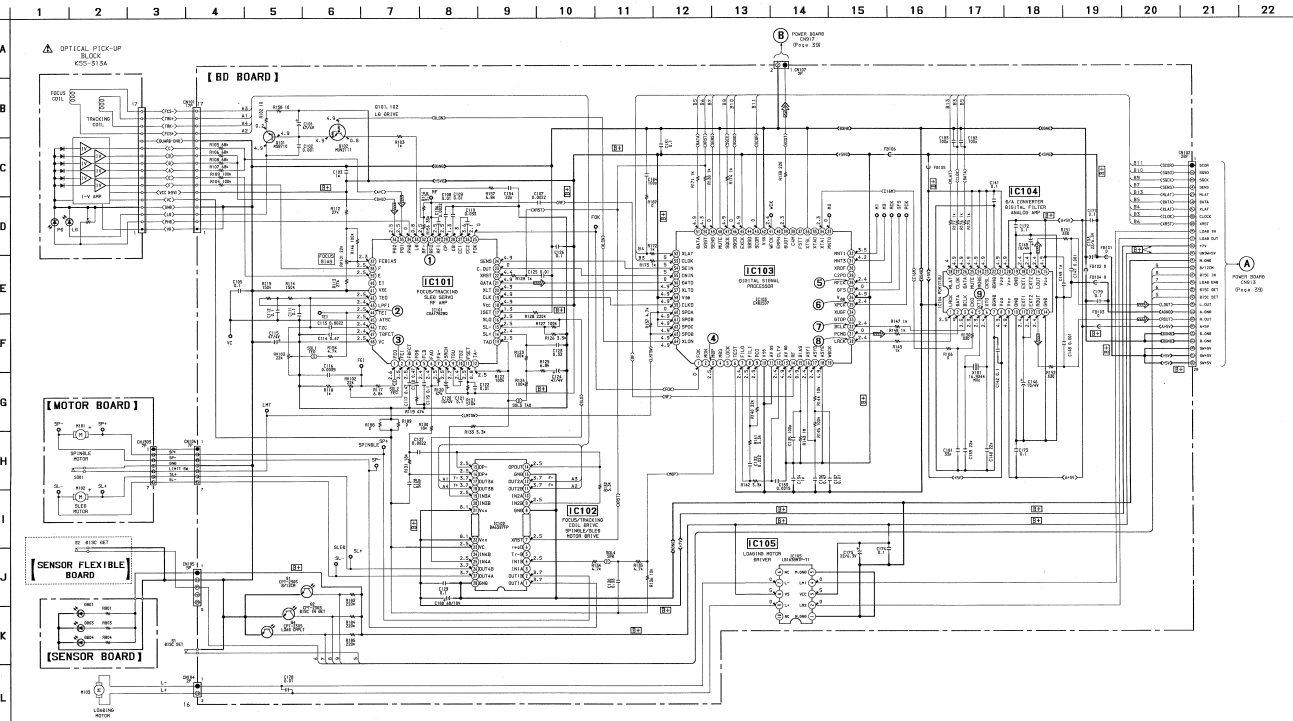


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5-3. SCHEMATIC DIAGRAM — BD SECTION —

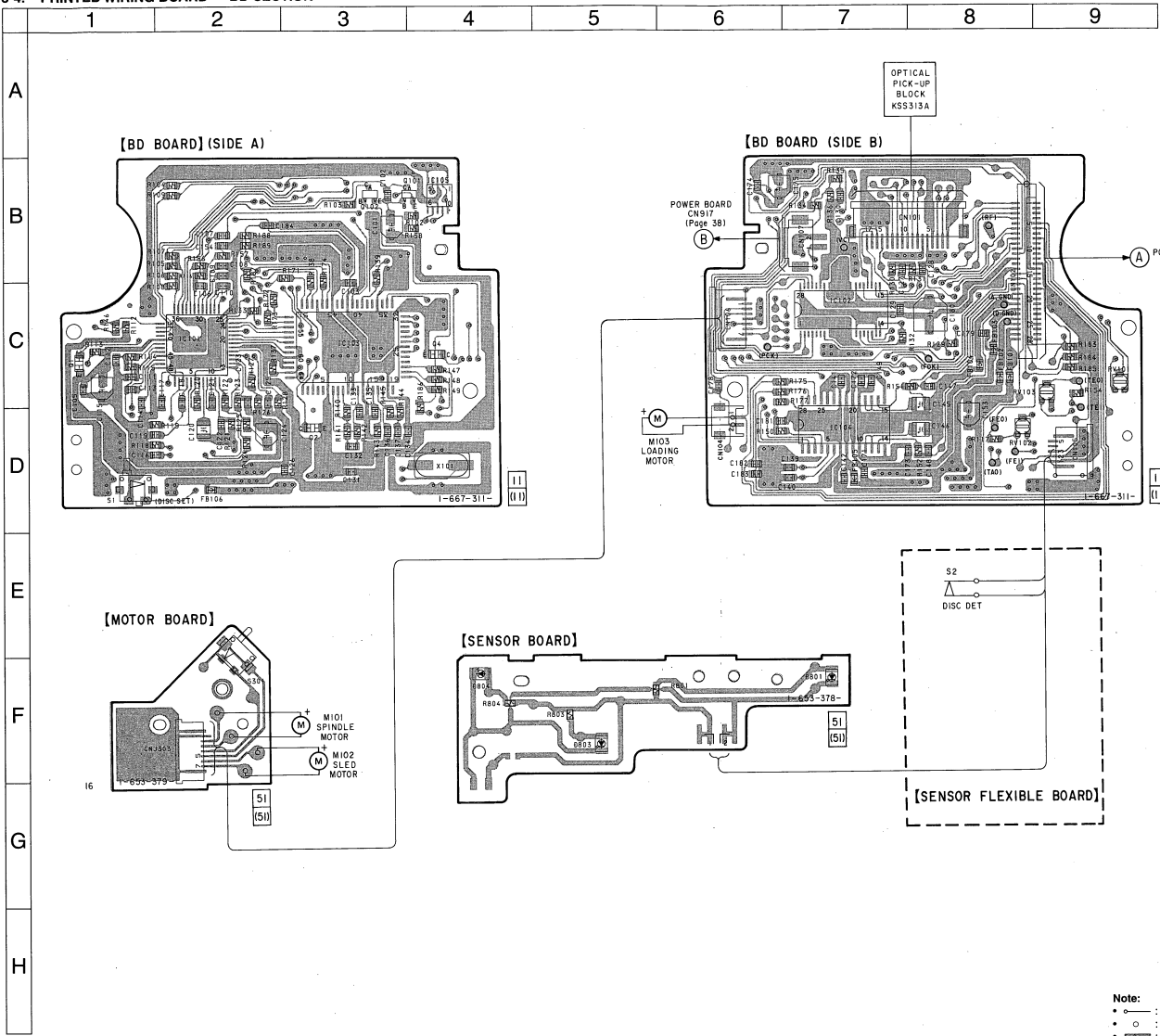
•Waveform



Note:
• All capacitors are in μF unless otherwise noted. pF , μF , 50 WV or less are not indicated except for electrolytics and tantalums.
• All resistors are in Ω and $\frac{1}{4}\text{ W}$ or less unless otherwise specified.
Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.
• Δ : B+ Line.
• \square : adjustment for repair.
• Voltages and waveforms are do with respect to ground under no-signal (detuned) conditions.
no mark : CD STOP
• Voltages are taken with a VOM (input impedance 10 M Ω).
Voltage variations may be noted due to normal production tolerances.
• Waveforms are taken with a oscilloscope.
Voltage variations may be noted due to normal production tolerances.
• Circled numbers refer to waveforms.
• Signal path.
• DIGITAL OUT



5-4. PRINTED WIRING BOARD — BD SECTION —



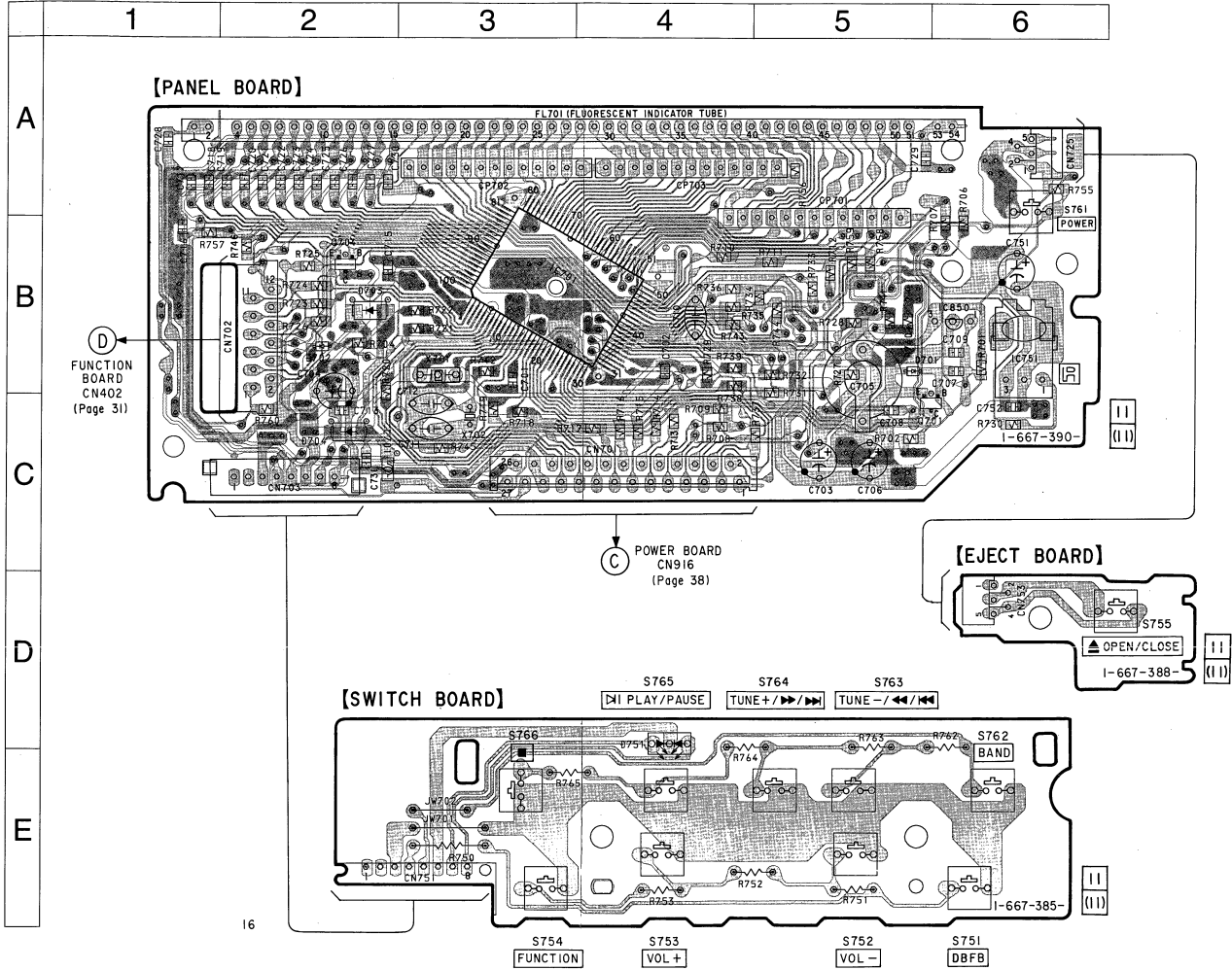
Semiconductor Location	
Ref. No.	Location
D801	F-7
D803	F-5
D804	F-4
IC101	C-2
IC102	C-7
IC103	C-3
IC104	D-7
IC105	B-4
Q1	C-1
Q2	D-3
Q4	C-4
Q101	B-4
Q102	B-3

Note:
• : parts extracted from the component side.
• : Through hole.
• : Parts on the side which is seen.

HCD-101

5-5. PRINTED WIRING BOARD — PANEL SECTION —

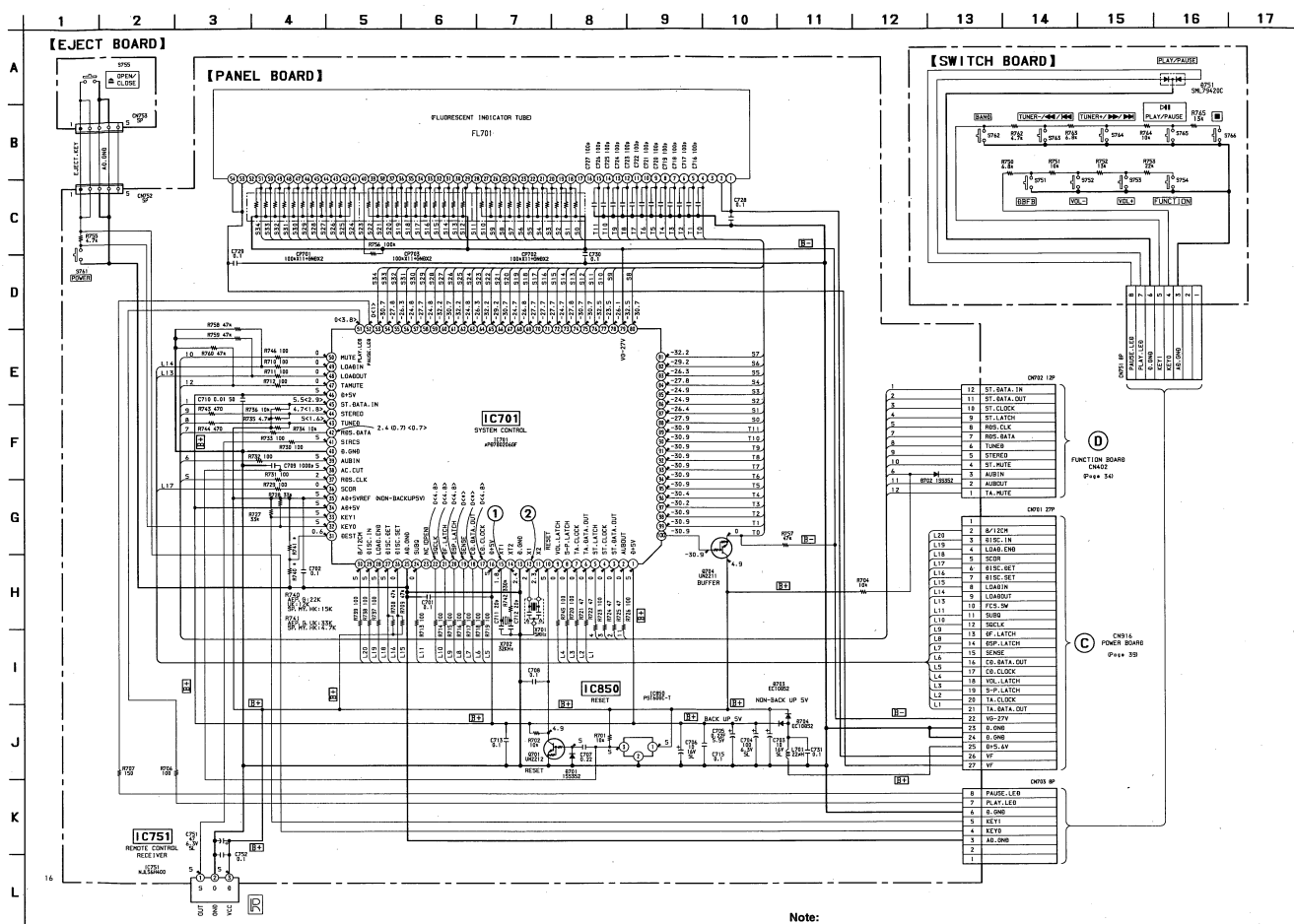
Semiconductor Location	
Ref. No.	Location
D701	B-5
D702	B-2
D703	B-2
D704	C-2
D751	D-4
IC701	B-3
IC751	B-6
IC850	B-6
Q701	C-6
Q704	B-2



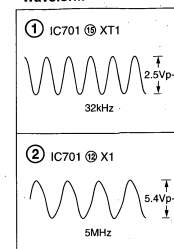
Note:

- : parts extracted from the component side.
- : Through hole.
- : Parts on the side which is seen.
- : Pattern of the rear side.

5-6. SCHEMATIC DIAGRAM — PANEL SECTION —



• Waveform



Note:

- All capacitors are in μF unless otherwise noted. pF : μF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
- : panel designation.
- B+ : B+ Line.
- B- : B- Line.

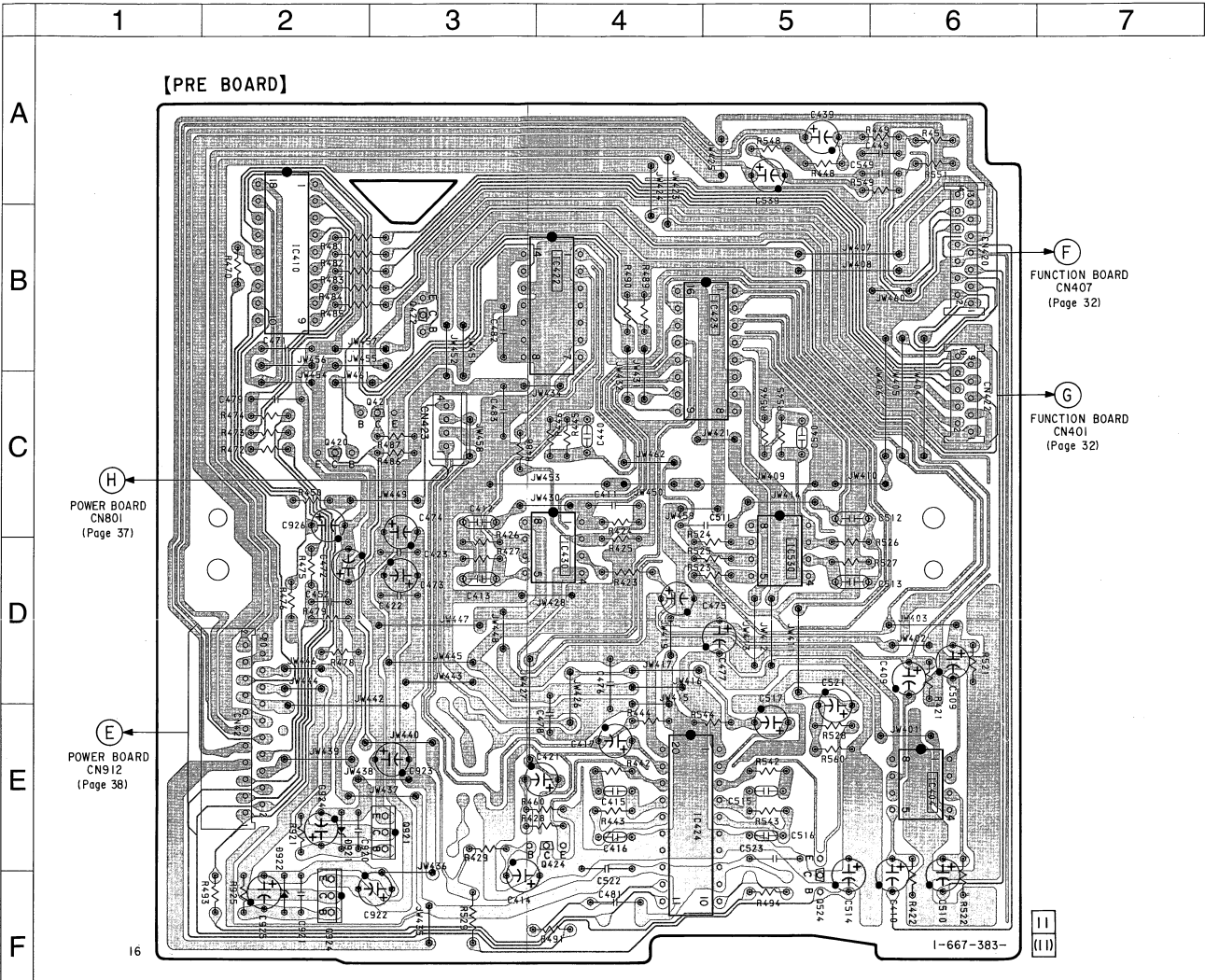
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark : FM
- () : AM
- > : CD PLAY
- Voltages are taken with a VOM (input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope.
- Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.

HCD-101

5-7. PRINTED WIRING BOARD — PRE SECTION —

• Semiconductor Location

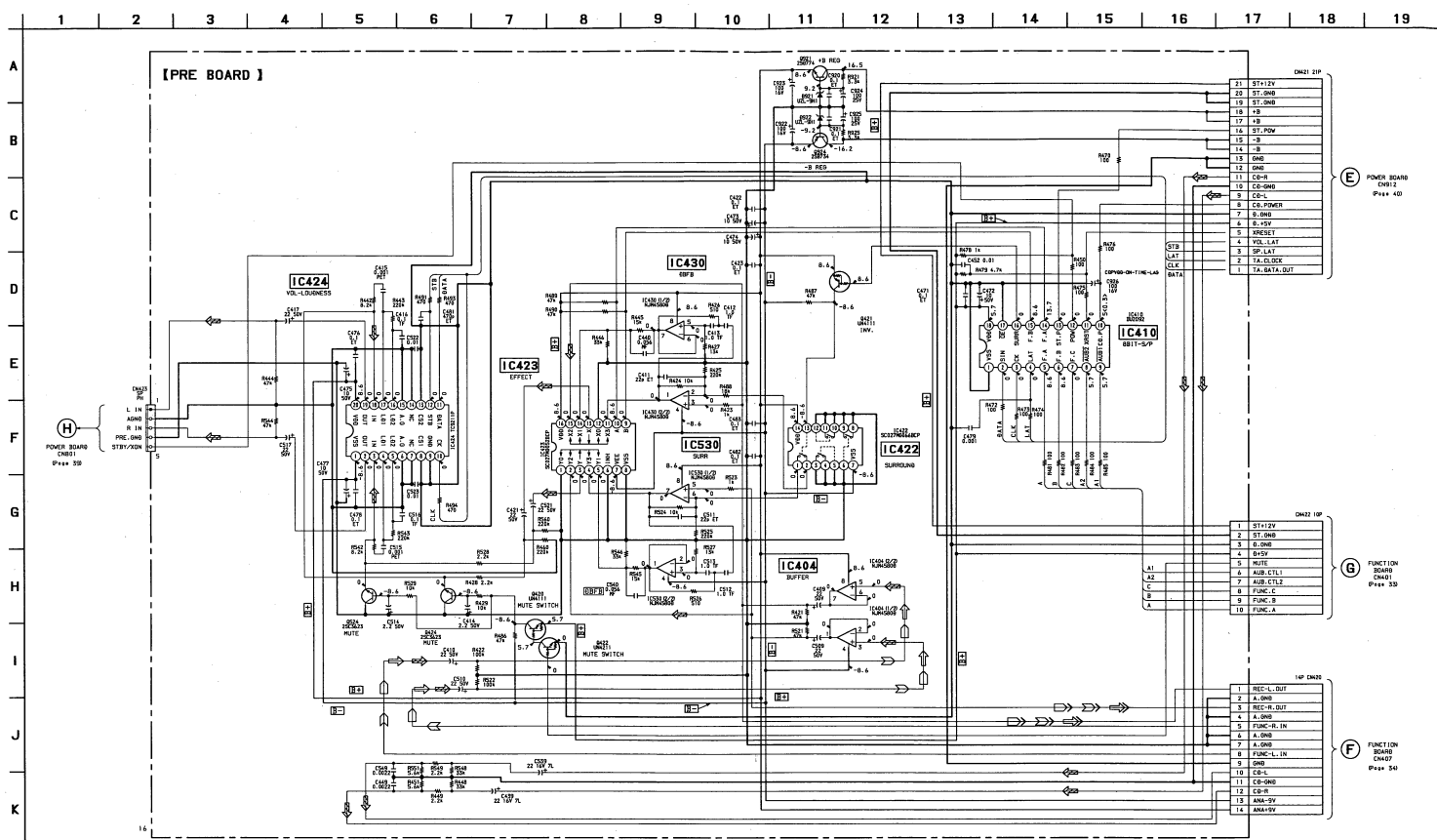
Ref. No.	Location
D921	E-2
D922	F-2
IC404	E-6
IC410	B-2
IC422	B-4
IC423	B-5
IC424	E-4
IC430	D-4
IC530	D-5
Q420	C-2
Q421	C-3
Q422	B-3
Q424	E-4
Q524	F-5
Q921	E-3
Q924	F-2



Note:

- : parts extracted from the component side.
- : Parts on the side which is seen.

5-8. SCHEMATIC DIAGRAM — PRE SECTION —

**Note:**

- All capacitors are in μF unless otherwise noted. pF ; μF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
- [B+] : B+ Line.
- [B-] : B- Line.
- Voltages are dc with respect to ground under no-signal (detuned) conditions.
- no mark : FM
- < : CD PLAY
- Voltages are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.

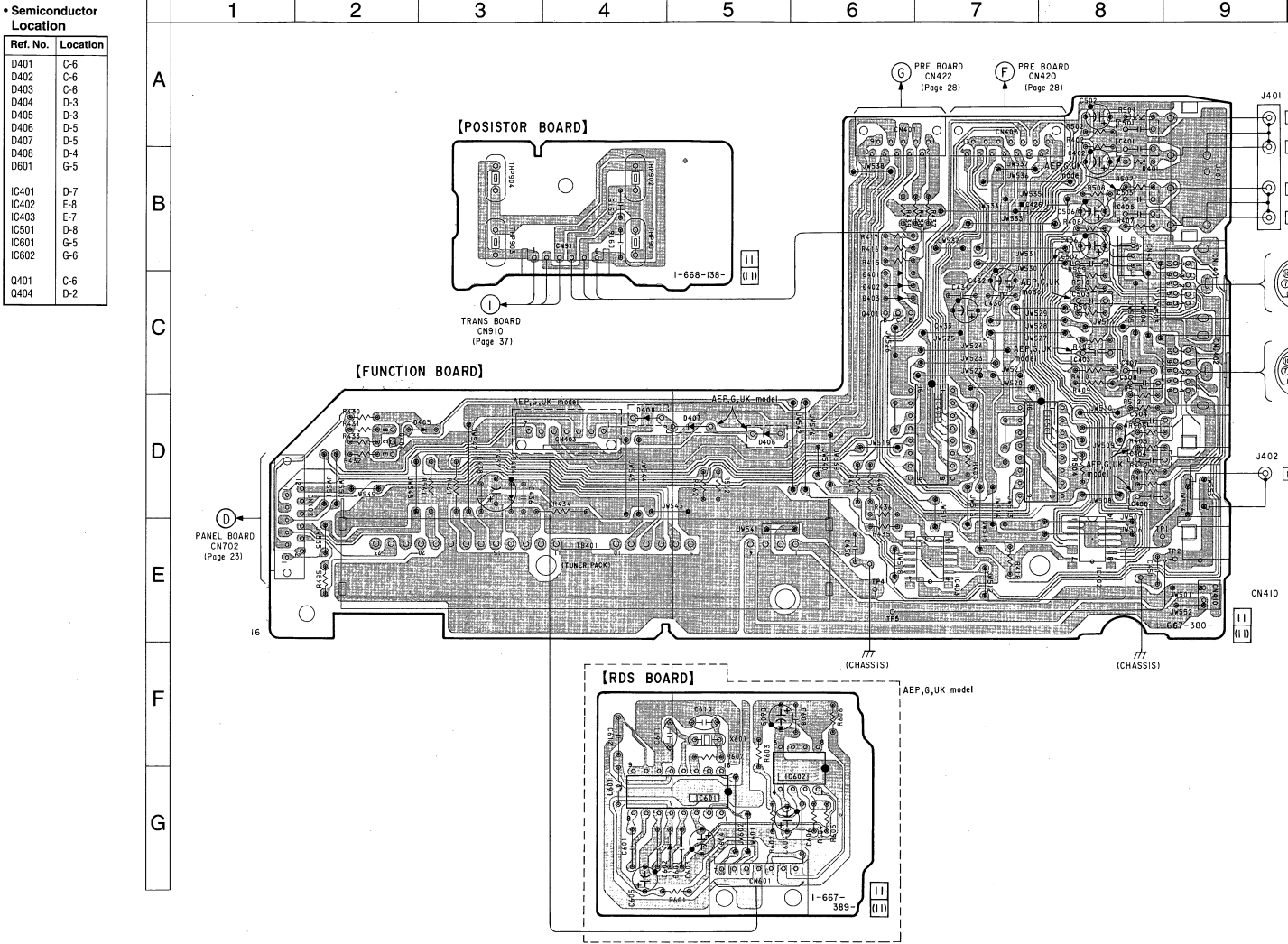
- Voltage variations may be noted due to normal production tolerances.

• Signal path.

- ⇒ : MD PB
- ⇒ : MD REC
- ⇒ : TAPE PB
- ⇒ : VIDEO/PC PB
- ⇒ : TAPE REC
- ⇒ : VIDEO/PC REC
- ⇒ : CD

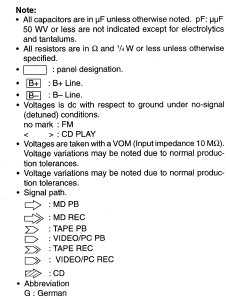
HCD-101

5-9. PRINTED WIRING BOARD — FUNCTION SECTION —



Note:

- : parts extracted from the component side.
- : Parts on the side which is seen.
- Abbreviation
- G : German

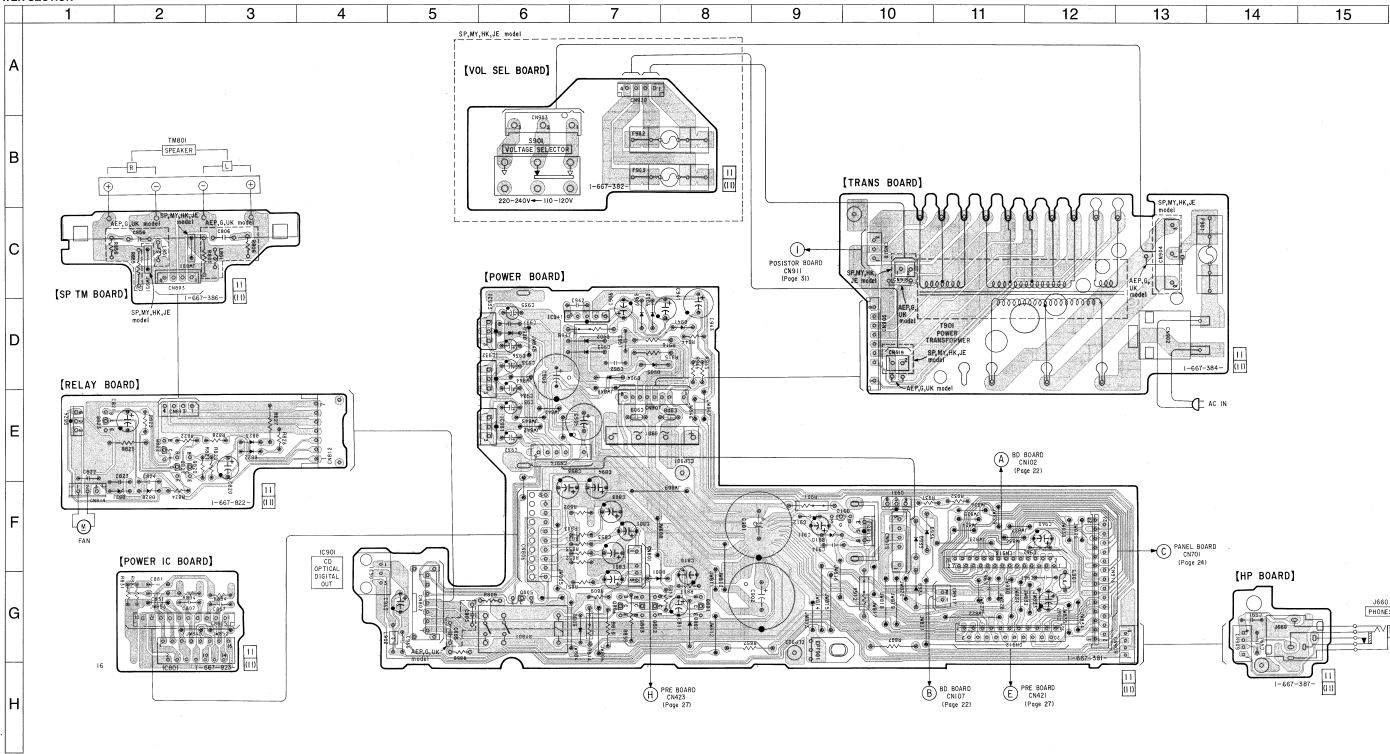


HCD-101
5-11. PRINTED WIRING BOARD — POWER SECTION —

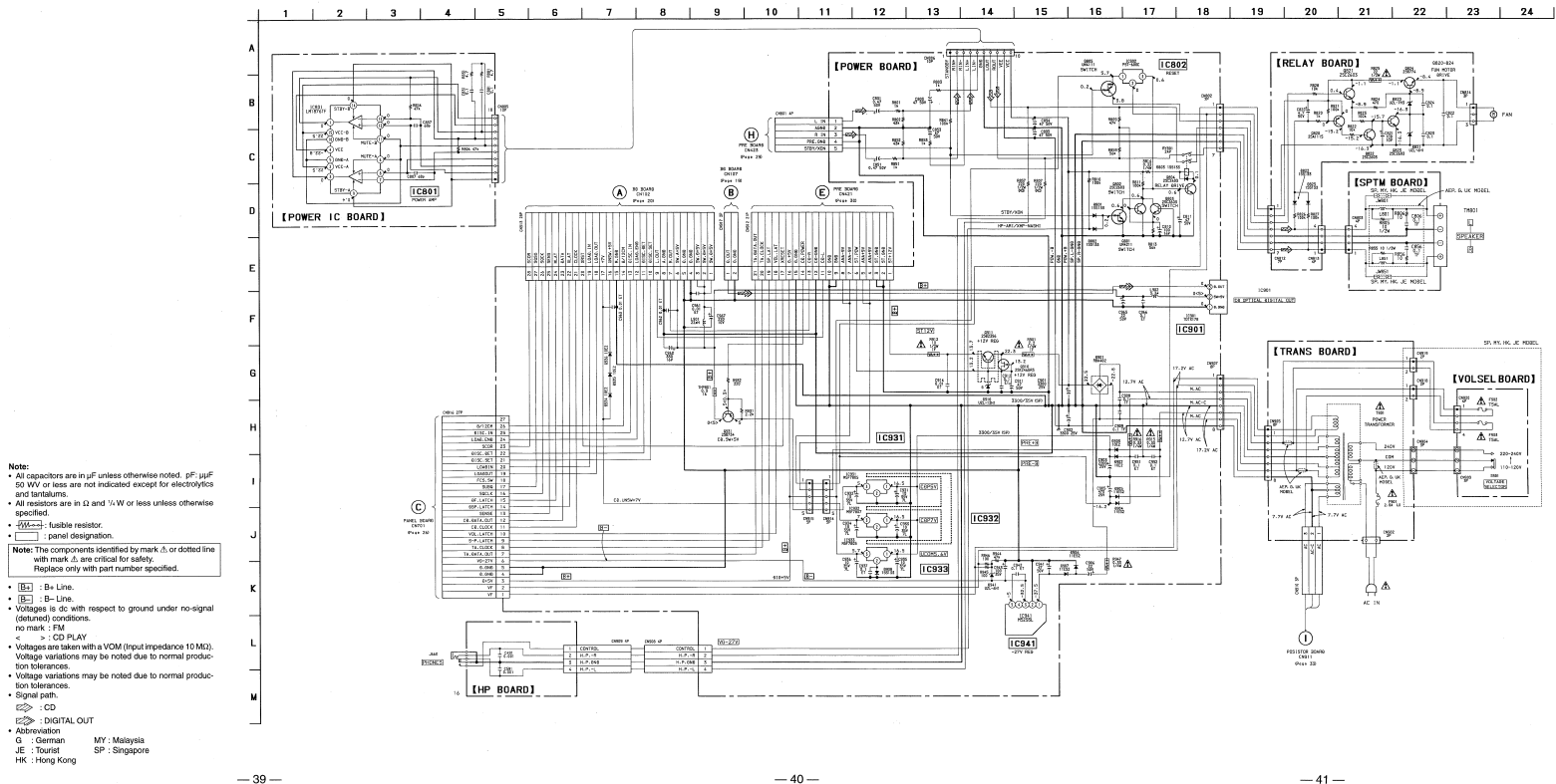
• Semiconductor

Ref. No.	Location
DB01	G-7
DB02	G-8
DB03	G-7
DB20	F-2
DB21	F-2
DB22	E-3
DB23	E-3
DB01	D-7
DB02	D-7
DB03	D-7
DB04	D-7
DB05	D-7
DB06	D-7
DB07	D-7
DB10	F-9
DB34	G-10
DB35	F-10
DB36	F-10
DB38	D-6
DB41	D-8
IC801	G-2
IC802	777
IC801	F-4
IC831	E-6
IC832	D-6
IC833	D-6
IC841	D-7
QB01	G-8
QB02	G-7
QB03	G-7
QB04	G-7
QB05	G-6
QB20	E-2
QB21	E-2
QB22	E-2
QB23	E-1
QB24	E-1
QB10	F-9
QB11	F-10
QB31	F-10

Note:
• — : parts extracted from the component side.
• — : Parts on the side which is seen.
• Abbreviation
G : German MY : Malaysia
JE : Tourist SP : Singapore
HK : Hong Kong



5-12. SCHEMATIC DIAGRAM — POWER SECTION —



HCD-101

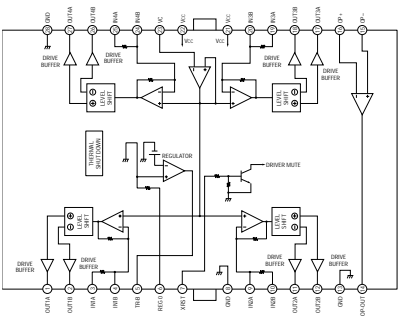
5-13. IC PIN FUNCTION
• IC701 μPD780206GF-023-3BA

Pin No.	Pin Name	I/O	Description
1	D+5V	—	Power supply (+5V)
2	AUB OUT	O	AU_ BUS output
3	ST DATA OUT	O	Tuner pack (TB401) serial data output
4	ST CLOCK	O	Tuner pack (TB401) clock output
5	ST LATCH	O	Tuner pack (TB401) latch output
6	TA DATA OUT	O	Data output to electronic VOL (IC424) serial-to-parallel conversion IC (IC410)
7	TA CLOCK	O	Clock output to electronic VOL (IC424) serial-to-parallel conversion IC (IC410)
8	LATCH (S.P)	O	Latch output to serial-to-parallel conversion IC (IC410)
9	LATCH (VOL)	O	Latch output to electronic VOL (IC424)
10	RESET	I	SYSTEM RESET
11	X2	O	Main clock oscillator output (5MHz)
12	X1	I	Main clock oscillator input (5MHz)
13	D.GND	—	Connected to Vss
14	XT2	O	Watch oscillator output (32.768 kHz)
15	XT1	I	Watch oscillator input (32.768 kHz)
16	D+5V	—	Positive power supply (+5V)
17	CD CLOCK	O	CD clock output
18	CD DATA	O	CD data output
19	SENSE	I	CD DSP sense input
20	DSP LATCH	O	CD DSP latch output
21	DF LATCH	O	CD D/A latch output
22	SOCLK	O	CD Sub Q clock output
23	(OPEN)	—	(Not used)
24	SI (BQ)	I	Sub Q data input
25	AD.GND	—	Ground
26	DISC SET	I	CDM chucking sensor
27	DISC DET	I	CDM disc sensor
28	LOAD END	I	CDM disc sensor
29	DISC IN	I	CDM disc sensor
30	DISC F12	I	CDM disc sensor
31	DEST	I	Identification input of destination
32	KEY0	I	Key input
33	KEY 1	I	Key input
34	AD+5V	—	Built-in A/D converter analog power supply (+5V)
35	AD+5V REF	—	Built-in A/D converter reference voltage input (+5V)
36	SCUR	I	DSP SCUR input
37	RDS CLOCK	I	DSP clock input
38	AC CUT	I	AC power off detection
39	AUB IN	I	AU_ BUS input
40	D.GND	—	Ground
41	SIRCS	I	SIRCS remote control input
42	RDS DATA	—	(Not used)
43	TUNED	I	Tuner pack (TB401) TUNED input
44	STEREO	I	Tuner pack (TB401) STEREO input
45	ST DATA	I	Tuner pack (TB401) DATA input
46	D+5V	—	Positive power supply (+5V)
47	TA.MUTE	O	TA mute output
48	LOAD OUT	O	CDM 50 load output
49	LOAD IN	O	CDM 50 load input
50	ST.MUTE	O	Tuner pack (TB401) mute output

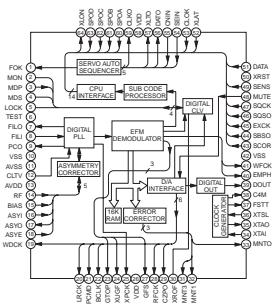
Pin No.	Pin Name	I/O	Description
51	PLAY LED	O	CD PLAY LED output
52	PAUSE LED	O	CD PAUSE LED output
53	S34	O	
54	S33	O	
55	S32	O	
56	S31	O	
57	S30	O	
58	S29	O	
59	S28	O	
60	S27	O	
61	S26	O	
62	S25	O	
63	S24	O	
64	S23	O	
65	S22	O	
66	S21	O	
67	S20	O	
68	S19	O	
69	S18	O	
70	S17	O	
71	S16	O	
72	S15	O	
73	S14	O	
74	S13	O	
75	S12	O	
76	S11	O	
77	S10	O	
78	S9	O	
79	VG-2TV	—	FIP controller pull-down resistor is connected here (-2TV)
80	S8	O	
81	S7	O	
82	S6	O	
83	S5	O	
84	S4	O	
85	S3	O	
86	S2	O	
87	S1	O	
88	S0	O	
89	T11	O	
90	T10	O	
91	T9	O	
92	T8	O	
93	T7	O	
94	T6	O	
95	T5	O	
96	T4	O	
97	T3	O	
98	T2	O	
99	T1	O	
100	T0	O	

5-14. IC BLOCK DIAGRAMS

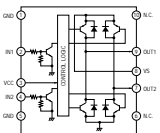
IC 102 BA6397FP



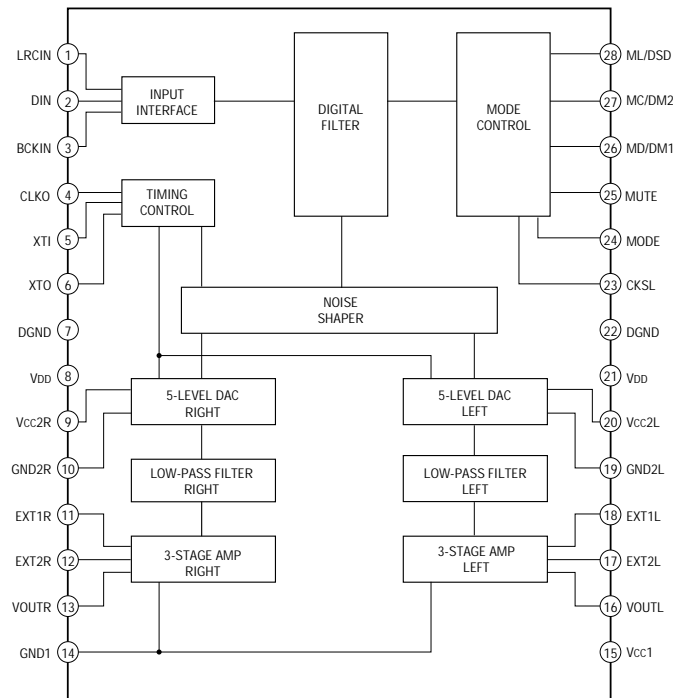
IC103 CXD2507AQ



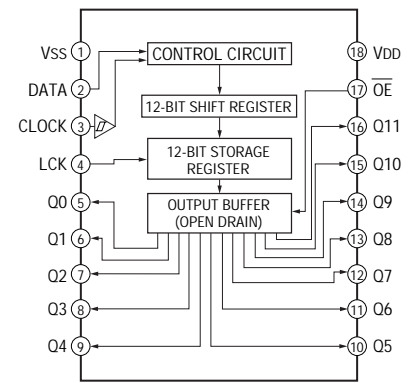
IC105 LB1638M



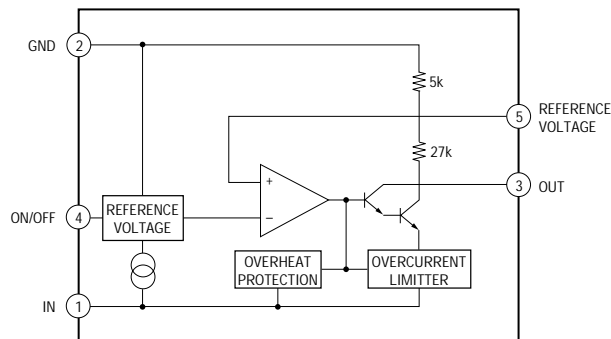
IC104 PCM1710U-B



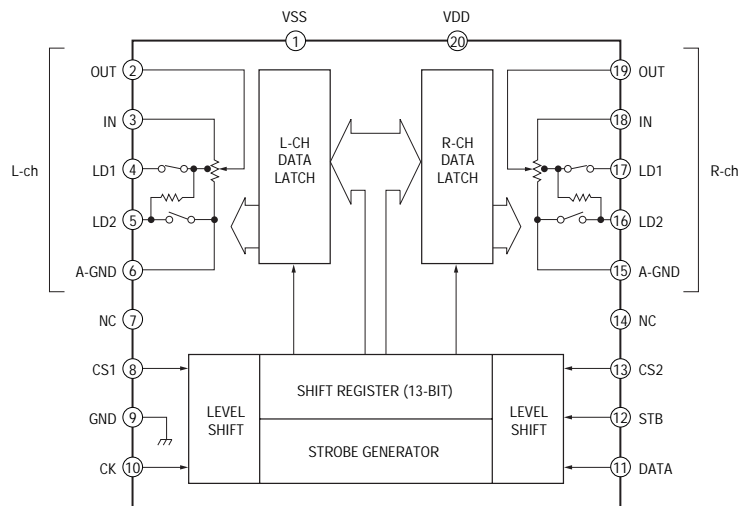
IC410 BU2092



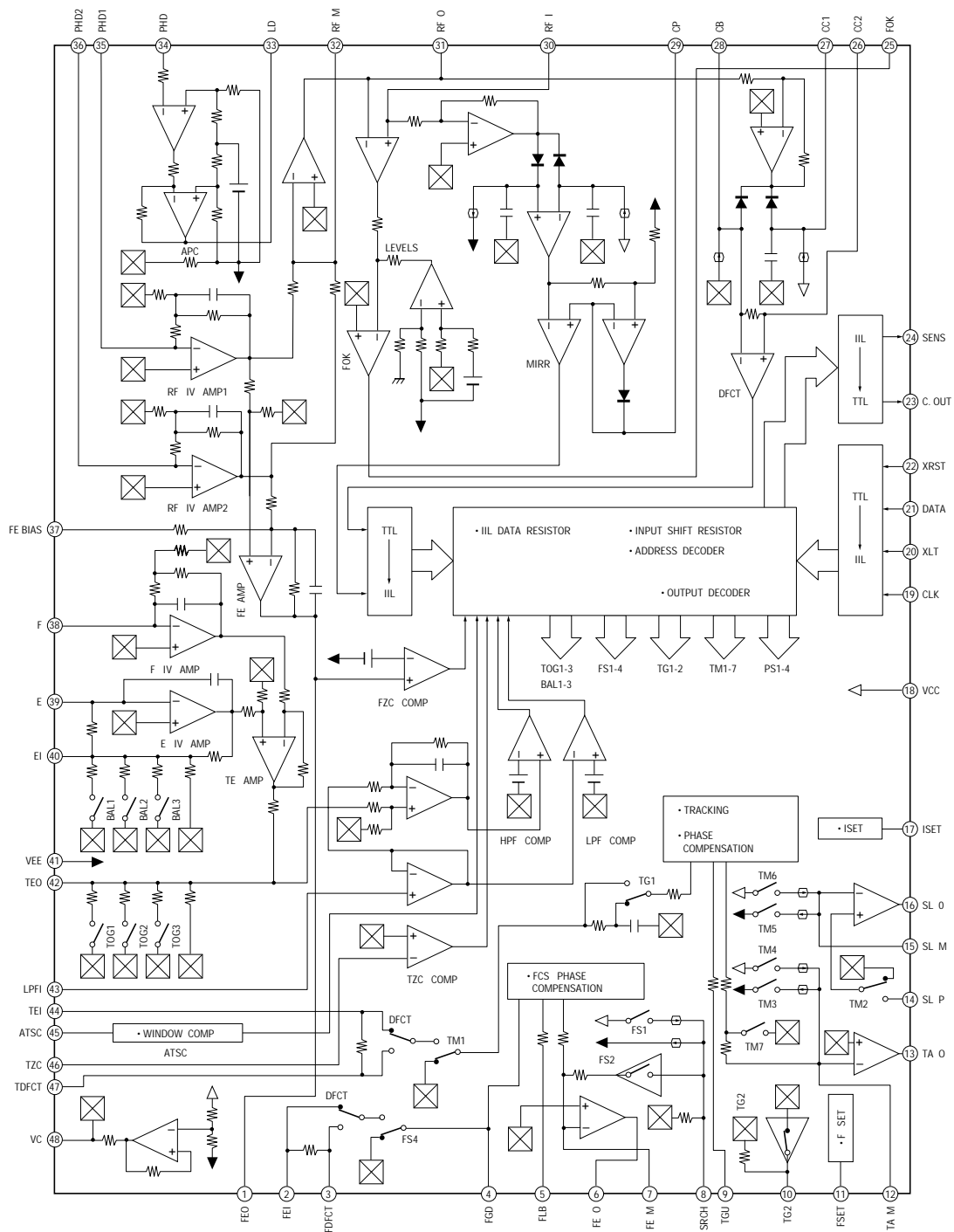
IC941 M5293L



IC424 TC9211P



IC101 CXA1782BQ



SECTION 6 EXPLODED VIEWS

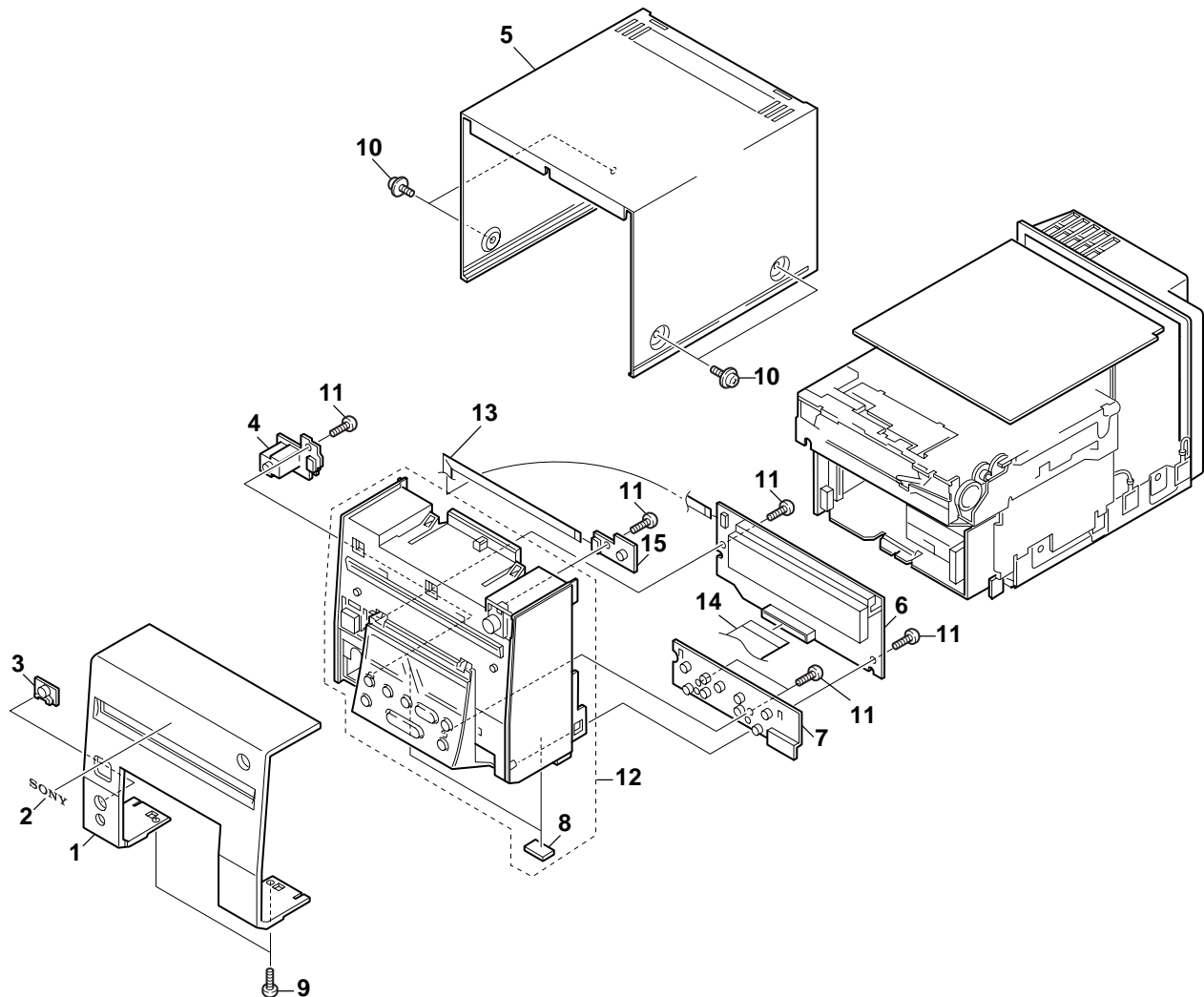
NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

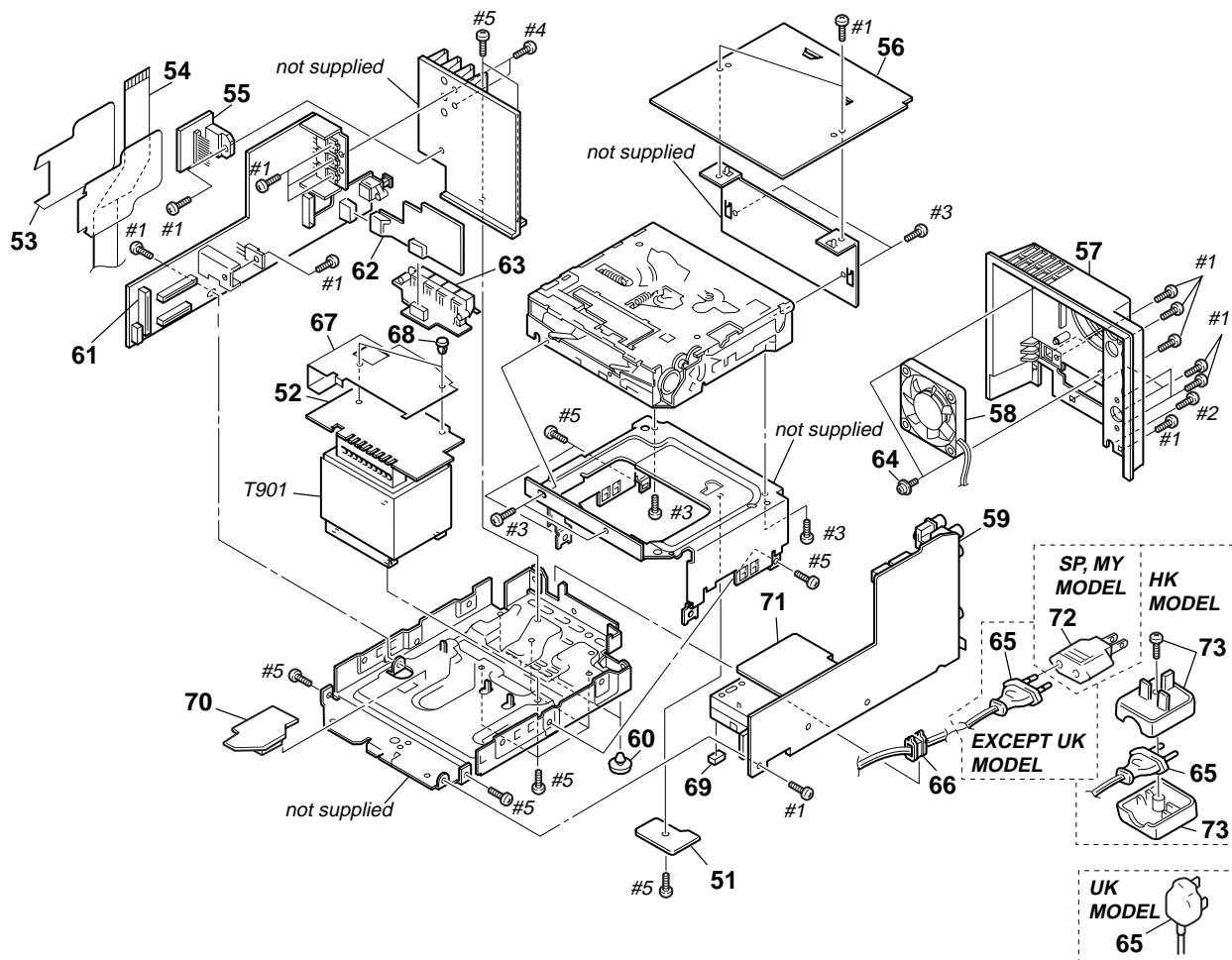
- Abbreviation
SP : Singapore
MY : Malaysia
HK : Hong Kong
G : German
JE : Tourist

6-1. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
1	4-994-808-01	PANEL (ALUMINUM), FRONT (SP,MY,HK,JE)		* 7	1-667-385-11	SWITCH BOARD	
1	4-994-808-11	PANEL (ALUMINUM), FRONT (AEP,G,UK)		8	4-930-336-61	FOOT (FELT)	
2	4-942-636-21	EMBLEM (No.3.5), SONY		9	4-958-107-01	SCREW (BV/RING S TIGHT)	
3	4-994-813-01	FILTER (RM)		10	3-363-099-51	SCREW (CASE 3 TP2)	
* 4	1-667-387-11	HP BOARD		11	4-951-620-01	SCREW (2.6X8), +BVTP	
* 5	4-994-819-31	CASE		12	X-4948-993-1	PANEL (M) ASSY	
* 6	A-4403-540-A	PANEL BOARD, COMPLETE (SP,MY,HK,JE)		13	1-782-805-11	WIRE (FLAT TYPE) (5 CORE)	
* 6	A-4403-560-A	PANEL BOARD, COMPLETE (AEP,G)		14	1-782-781-11	WIRE (FLAT TYPE) (27 CORE)	
* 6	A-4403-727-A	PANEL BOARD, COMPLETE (UK)		* 15	1-667-388-11	EJECT BOARD	

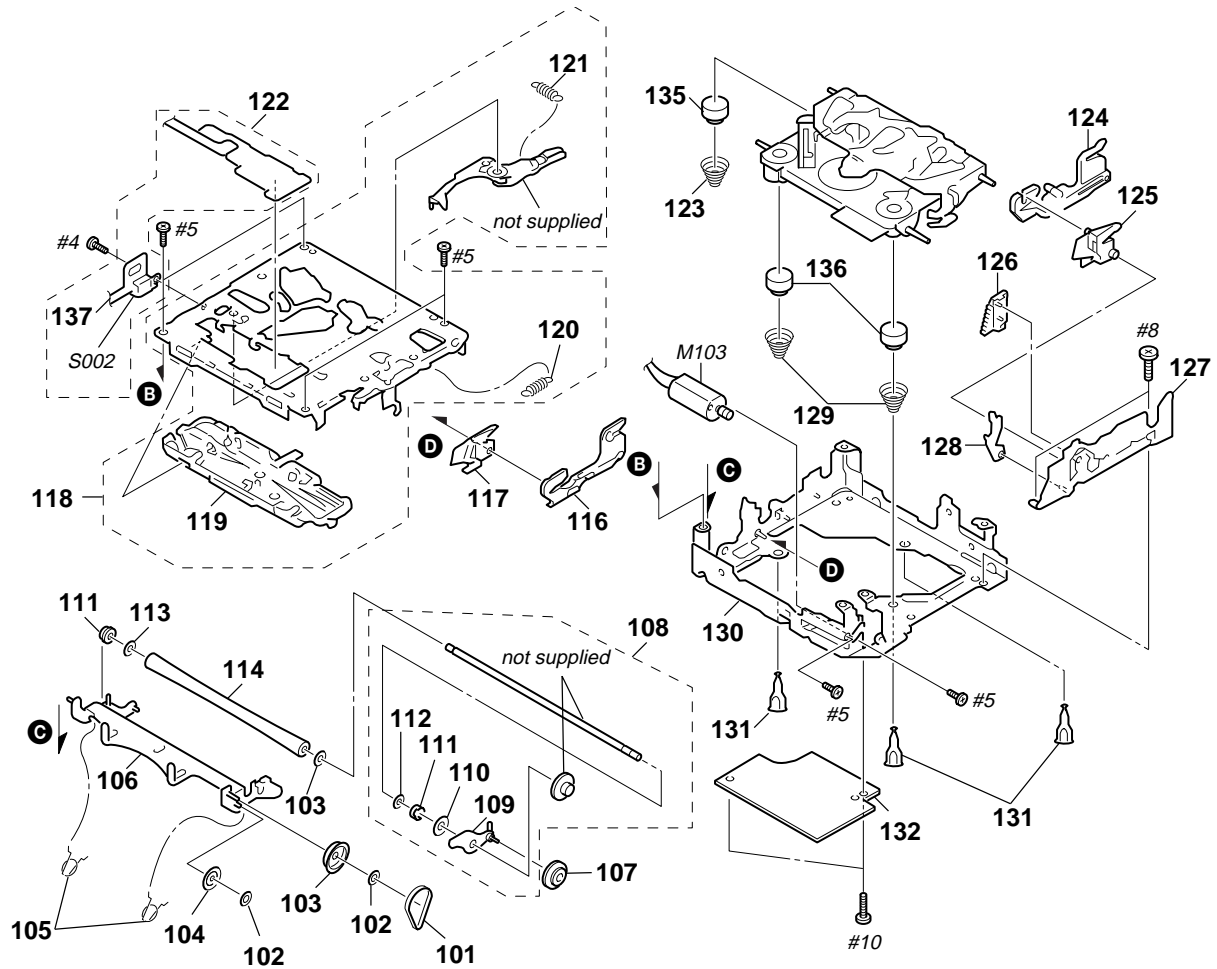
6-2. CHASSIS SECTION



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
51	1-668-138-11	POSISTOR BOARD		* 63	1-667-386-11	SP TM BOARD	
* 52	1-667-384-11	TRANS BOARD		64	4-985-672-01	SCREW (+PTPWHM2.6), FLOATING	
* 53	4-995-817-01	COVER (CABLE)		Δ 65	1-776-060-11	CORD, POWER (EXCEPT UK)	
54	1-782-780-11	WIRE (FLAT TYPE) (21 CORE)		Δ 65	1-776-061-21	CORD, POWER (UK)	
* 55	1-667-823-11	POWER IC BOARD		66	3-703-244-00	BUSHING (2104), CORD	
				* 67	4-994-825-01	COVER (TR)	
* 56	A-4403-527-A	PRE BOARD, COMPLETE		68	4-812-134-11	RIVET (DIA. 3.5), NYLON	
* 57	4-994-816-01	PANEL, BACK		69	4-889-836-01	CUSHION	
58	1-698-997-11	FAN, DC		* 70	1-667-382-11	VOLSEL BOARD	
* 59	A-4403-536-A	FUNCTION BOARD, COMPLETE (SP,MY,HK,JE)		* 71	A-4403-559-A	RDS BOARD, COMPLETE (AEP,G,UK)	
* 59	A-4403-553-A	FUNCTION BOARD, COMPLETE (AEP,G)					
				Δ 72	1-569-008-11	ADAPTOR, CONVERSION 2P (SP,MY)	
* 59	A-4403-726-A	FUNCTION BOARD, COMPLETE (UK)		Δ 73	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (HK)	
60	4-965-822-01	FOOT		Δ T901	1-431-559-11	TRANSFORMER, POWER (AEP,G,UK)	
* 61	A-4403-537-A	POWER BOARD, COMPLETE (SP,MY,HK,JE)		Δ T901	1-431-560-11	TRANSFORMER, POWER (SP,MY,HK,JE)	
* 61	A-4403-555-A	POWER BOARD, COMPLETE (AEP,G,UK)					
* 62	1-667-822-11	RELAY BOARD					

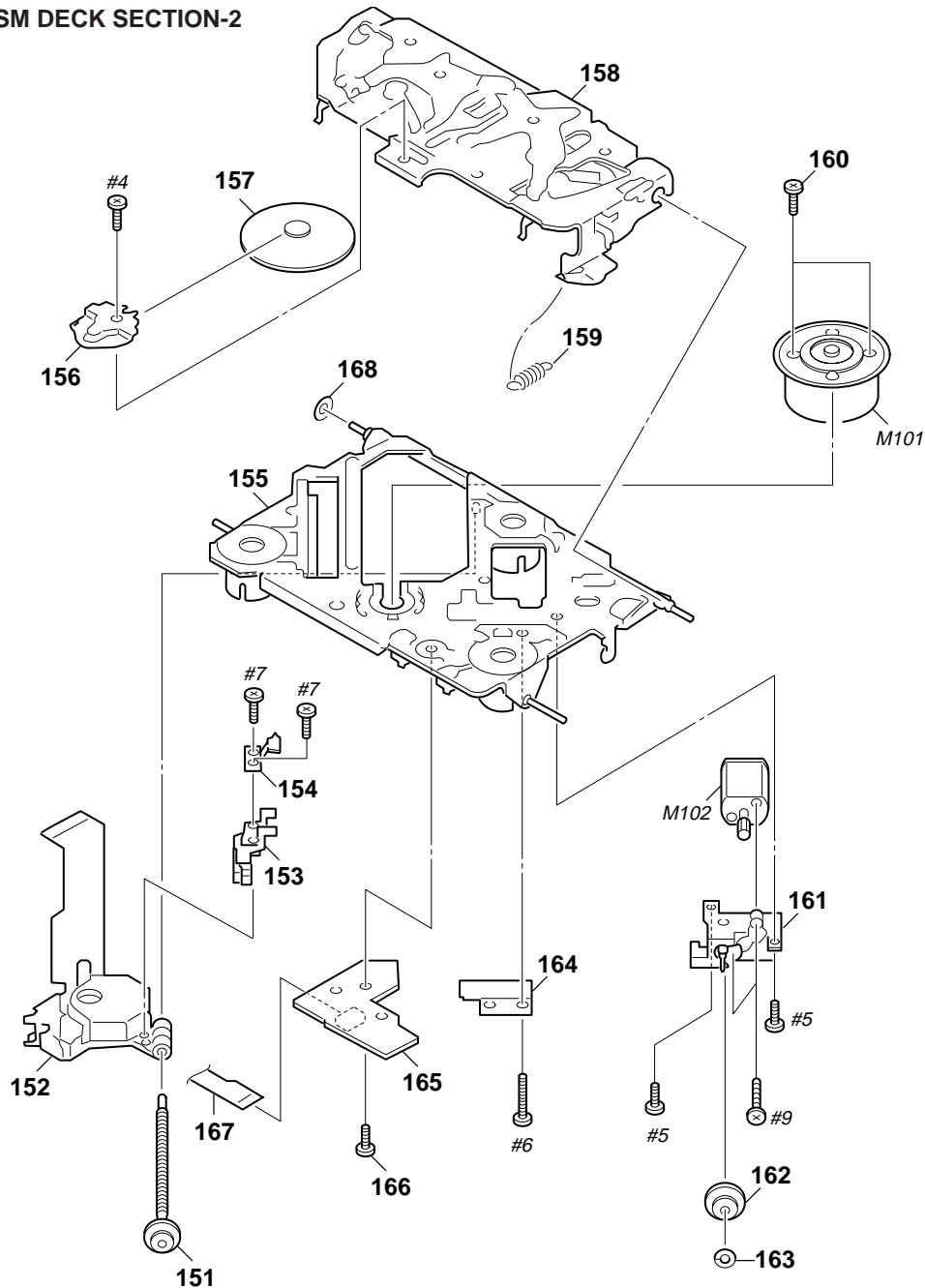
The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.

6-3. MECHANISM DECK SECTION-1 (CDM50)



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
101	3-387-776-01	BELT (L)		120	3-906-921-01	SPRING, TENSION	
102	3-578-242-11	WASHER		121	3-906-924-01	SPRING, TENSION	
103	3-384-894-01	GEAR (R1)		* 122	1-653-378-51	SENSOR BOARD	
104	3-384-895-01	GEAR (R2)		123	3-907-588-11	SPRING (FL2)	
105	3-384-900-01	SPRING (PRESS)		124	X-3366-102-1	SLIDER (R) ASSY	
* 106	X-3366-857-1	ARM ASSY, ROLLER		125	3-384-889-01	LEVER (R)	
107	3-384-896-01	GEAR (DOWN)		126	3-906-939-11	GEAR (RACK 2)	
108	A-3252-591-A	GEAR ASSY, ROLLER		* 127	X-3366-853-1	CHASSIS (R) ASSY	
109	X-3366-858-4	ARM ASSY, FRICTION		128	3-906-940-01	LEVER (ST2)	
110	3-384-899-01	SPRING (FRICTION)		129	3-384-916-01	SPRING (FL)	
111	3-384-892-01	BEARING (ROLLER)		* 130	X-3373-302-2	CHASSIS (M) ASSY	
112	3-386-150-01	RING (ROLLER), RETAINING		131	3-384-923-01	SHAFT (DAMPER)	
113	3-701-438-11	WASHER, 2.5		* 132	A-4699-821-A	BD BOARD, COMPLETE	
114	3-909-408-01	ROLLER (T2)		135	3-384-914-01	DAMPER	
116	3-384-888-01	SLIDER (L)		136	3-384-914-12	DAMPER	
117	3-384-887-01	LEVER (L)		137	1-658-806-11	SENSOR FLEXIBLE BOARD	
* 118	X-3371-324-3	CHASSIS (T2) ASSY		M103	A-3252-580-A	MOTOR (L) ASSY (LOADING)	
119	3-906-923-11	GUIDE (DISK 2)		S002	1-692-441-11	SWITCH, MICROPHONE (DISC DET)	

6-4. MECHANISM DECK SECTION-2 (CDM50)



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
151	A-3252-586-A	SHAFT (SL) ASSY		162	3-384-912-11	GEAR (K2)	
△ 152	8-848-283-11	OPTICAL PICK-UP KSS-313A		163	3-570-615-02	POLY-WASHER (DIA.1.2)	
153	3-384-922-01	GEAR (SL FEED)		164	3-384-913-11	SPRING (THRUST RETAINER)	
154	3-384-920-01	RETAINER (SL FEED)		* 165	1-653-379-51	MOTOR BOARD	
155	X-3370-190-1	CHASSIS (OPT) ASSY (OUTSERT)		166	3-918-103-11	SCREW	
* 156	3-384-915-11	BRACKET (CP)		167	1-653-376-11	MOTOR FLEXIBLE BOARD	
* 157	3-384-918-01	RETAINER (DISC)		168	3-701-442-01	WASHER, POLYETHYLENE	
158	X-3372-948-1	ARM ASSY, CHUCKING		M101	X-3367-484-2	MOTOR (SP) ASSY (SPINDLE)	
159	3-384-917-01	SPRING (CH)		M102	A-3252-585-A	MOTOR (SL) ASSY (SLED)	
160	3-926-152-01	SCREW (+PM1.7X2.5)					
161	X-3366-100-1	BASE (DRIVING) ASSY					

The components identified by mark △ or dotted line with mark △ are critical for safety.
Replace only with part number specified.

SECTION 7 ELECTRICAL PARTS LIST

BD

NOTE:

When indicating parts by reference number, please include the board name.

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

- Abbreviation
SP : Singapore
MY : Malaysia
HK : Hong Kong
G : German
JE : Tourist

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
uF: μ F
- RESISTORS
All resistors are in ohms.
METAL: metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable
- COILS
uH: μ H
- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A..., uPA..., μ PA...,
uPB..., μ PB..., uPC..., μ PC...,
uPD..., μ PD...

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
*	A-4699-821-A	BD BOARD, COMPLETE *****		C145	1-135-201-11	TANTALUM CHIP 10uF 20%	4V
	3-934-077-01	CUSHION (LIGHT INTERCEPTION)		C146	1-135-201-11	TANTALUM CHIP 10uF 20%	4V
		< CAPACITOR >		C147	1-163-275-11	CERAMIC CHIP 0.001uF 5%	50V
C101	1-126-607-11	ELECT CHIP 47uF 20%	4V	C148	1-163-275-11	CERAMIC CHIP 0.001uF 5%	50V
C102	1-163-275-11	CERAMIC CHIP 0.001uF 5%	50V	C149	1-164-346-11	CERAMIC CHIP 1uF	16V
C103	1-164-346-11	CERAMIC CHIP 1uF	16V	C153	1-124-778-00	ELECT CHIP 22uF 20%	6.3V
C105	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V	C154	1-163-235-11	CERAMIC CHIP 22PF 5%	50V
C106	1-164-695-11	CERAMIC CHIP 0.0022uF 5%	50V	C171	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V
C107	1-164-695-11	CERAMIC CHIP 0.0022uF 5%	50V	C172	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V
C108	1-164-232-11	CERAMIC CHIP 0.01uF	50V	C173	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V
C109	1-164-232-11	CERAMIC CHIP 0.01uF	50V	C174	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V
C110	1-163-989-11	CERAMIC CHIP 0.033uF 10%	25V	C175	1-124-778-00	ELECT CHIP 22uF 20%	6.3V
C111	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V	C178	1-164-232-11	CERAMIC CHIP 0.01uF	50V
C112	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V	C179	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V
C113	1-164-695-11	CERAMIC CHIP 0.0022uF 5%	50V	C180	1-128-065-11	ELECT 68uF 20%	10V
C114	1-107-823-11	CERAMIC CHIP 0.47uF 10%	16V	C181	1-163-239-11	CERAMIC CHIP 33PF 5%	50V
C115	1-126-607-11	ELECT CHIP 47uF 20%	4V	C182	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C116	1-163-016-00	CERAMIC CHIP 0.0039uF 10%	50V	C183	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C117	1-107-823-11	CERAMIC CHIP 0.47uF 10%	16V	C184	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C118	1-107-823-11	CERAMIC CHIP 0.47uF 10%	16V			< CONNECTOR >	
C119	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V	CN101	1-565-728-11	CONNECTOR, FPC 17P	
C120	1-135-201-11	TANTALUM CHIP 10uF 20%	4V	CN102	1-770-298-31	HOUSING, CONNECTOR 28P	
C121	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V	CN104	1-580-055-21	PIN, CONNECTOR 2P	
C122	1-164-232-11	CERAMIC CHIP 0.01uF	50V	CN105	1-774-417-11	CONNECTOR, FPC 5P	
C123	1-164-336-11	CERAMIC CHIP 0.33uF	25V	CN106	1-770-345-21	CONNECTOR, FPC 7P	
C124	1-126-607-11	ELECT CHIP 47uF 20%	4V	CN107	1-778-638-21	PIN, CONNECTOR (PC BOARD) 2P	
C125	1-164-232-11	CERAMIC CHIP 0.01uF	50V			< FERRITE BEAD >	
C126	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V	FB101	1-500-245-11	INDUCTOR 0UH	
C127	1-164-695-11	CERAMIC CHIP 0.0022uF 5%	50V	FB102	1-216-295-91	CONDUCTOR, CHIP (2012)	
C128	1-163-135-00	CERAMIC CHIP 560PF 5%	50V	FB103	1-500-245-11	INDUCTOR 0UH	
C129	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V	FB104	1-216-295-91	CONDUCTOR, CHIP (2012)	
C130	1-164-336-11	CERAMIC CHIP 0.33uF	25V	FB105	1-414-386-11	INDUCTOR, FERRITE BEAD	
C131	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V	FB106	1-414-386-11	INDUCTOR, FERRITE BEAD	
C132	1-163-037-11	CERAMIC CHIP 0.022uF 10%	25V			< IC >	
C133	1-163-145-00	CERAMIC CHIP 0.0015uF 5%	50V	IC101	8-752-069-56	IC CXA1782BQ	
C134	1-164-346-11	CERAMIC CHIP 1uF	16V	IC102	8-759-291-06	IC BA6397FP	
C135	1-163-251-11	CERAMIC CHIP 100PF 5%	50V	IC103	8-752-372-94	IC CXD2507AQ	
C136	1-164-005-11	CERAMIC CHIP 0.47uF	25V	IC104	8-759-185-29	IC PCM1710U-B	
C137	1-164-232-11	CERAMIC CHIP 0.01uF	50V	IC105	8-759-823-87	IC LB1638M	
C139	1-163-235-11	CERAMIC CHIP 22PF 5%	50V				
C140	1-163-235-11	CERAMIC CHIP 22PF 5%	50V				
C141	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V				
C142	1-164-004-11	CERAMIC CHIP 0.1uF 10%	25V				

BD	EJECT	FUNCTION
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Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
< TRANSISTOR >				R156	1-216-085-00	METAL CHIP 33K	5% 1/10W
Q1	8-729-032-35	PHOTO TRANSISTOR CPT-230S-C-TU		R157	1-216-069-00	METAL CHIP 6.8K	5% 1/10W
Q2	8-729-032-35	PHOTO TRANSISTOR CPT-230S-C-TU		R158	1-216-001-00	METAL CHIP 10	5% 1/10W
Q4	8-729-032-35	PHOTO TRANSISTOR CPT-230S-C-TU		R171	1-216-049-91	METAL GLAZE 1K	5% 1/10W
Q101	8-729-010-08	TRANSISTOR MSB710-R		R172	1-216-049-91	METAL GLAZE 1K	5% 1/10W
Q102	8-729-424-08	TRANSISTOR UN2111		R173	1-216-049-91	METAL GLAZE 1K	5% 1/10W
< RESISTOR >				R174	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R102	1-216-001-00	METAL CHIP 10	5% 1/10W	R175	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R103	1-216-049-91	METAL GLAZE 1K	5% 1/10W	R176	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R104	1-216-097-91	METAL GLAZE 100K	5% 1/10W	R177	1-216-049-91	METAL GLAZE 1K	5% 1/10W
R105	1-216-093-00	METAL CHIP 68K	5% 1/10W	R183	1-216-105-91	METAL GLAZE 220K	5% 1/10W
R106	1-216-093-00	METAL CHIP 68K	5% 1/10W	R184	1-216-105-91	METAL GLAZE 220K	5% 1/10W
R107	1-216-093-00	METAL CHIP 68K	5% 1/10W	R185	1-216-105-91	METAL GLAZE 220K	5% 1/10W
R108	1-216-093-00	METAL CHIP 68K	5% 1/10W	R186	1-216-295-91	CONDUCTOR, CHIP (2012)	
R109	1-216-097-91	METAL GLAZE 100K	5% 1/10W	R187	1-216-295-91	CONDUCTOR, CHIP (2012)	
R112	1-216-083-00	METAL CHIP 27K	5% 1/10W	R188	1-216-295-91	CONDUCTOR, CHIP (2012)	
R113	1-216-083-00	METAL CHIP 27K	5% 1/10W	R189	1-216-295-91	CONDUCTOR, CHIP (2012)	
R114	1-216-101-00	METAL CHIP 150K	5% 1/10W	< VARIABLE RESISTOR >			
R115	1-216-101-00	METAL CHIP 150K	5% 1/10W	RV101	1-223-587-11	RES, ADJ, CARBON 22K	
R116	1-216-061-00	METAL CHIP 3.3K	5% 1/10W	RV102	1-223-587-11	RES, ADJ, CARBON 22K	
R117	1-216-069-00	METAL CHIP 6.8K	5% 1/10W	RV103	1-223-587-11	RES, ADJ, CARBON 22K	
R118	1-216-049-91	METAL GLAZE 1K	5% 1/10W	< SWITCH >			
R119	1-216-089-91	METAL GLAZE 47K	5% 1/10W	S1	1-571-754-31	SWITCH, PUSH (1 KEY)	
R120	1-216-089-91	METAL GLAZE 47K	5% 1/10W	< VIBRATOR >			
R121	1-216-114-00	METAL GLAZE 510K	5% 1/10W	X101	1-767-430-11	VIBRATOR, CRYSTAL 16.9344MHz	
R122	1-216-097-91	METAL GLAZE 100K	5% 1/10W	*****			
R123	1-216-097-91	METAL GLAZE 100K	5% 1/10W	*	1-667-388-11	EJECT BOARD	
R124	1-216-097-91	METAL GLAZE 100K	5% 1/10W	*****			
R125	1-216-069-00	METAL CHIP 6.8K	5% 1/10W	< CONNECTOR >			
R126	1-216-061-00	METAL CHIP 3.3K	5% 1/10W	CN753	1-580-918-11	HOUSING, CONNECTOR 5P	
R127	1-216-097-91	METAL GLAZE 100K	5% 1/10W	< SWITCH >			
R128	1-216-105-91	METAL GLAZE 220K	5% 1/10W	S755	1-762-875-21	SWITCH, KEYBOARD (▲OPEN/CLOSE)	
R129	1-216-049-91	METAL GLAZE 1K	5% 1/10W	*****			
R130	1-216-079-00	METAL CHIP 18K	5% 1/10W	*	A-4403-553-A	FUNCTION BOARD, COMPLETE (AEP,G)	
R131	1-216-079-00	METAL CHIP 18K	5% 1/10W	*****			
R132	1-216-061-00	METAL CHIP 3.3K	5% 1/10W		A-4403-536-A	FUNCTION BOARD, COMPLETE (SP,MY,HK,JE)	
R133	1-216-061-00	METAL CHIP 3.3K	5% 1/10W	*****			
R134	1-216-065-00	METAL CHIP 4.7K	5% 1/10W	*	A-4403-726-A	FUNCTION BOARD, COMPLETE (UK)	
R135	1-216-065-00	METAL CHIP 4.7K	5% 1/10W	*****			
R136	1-216-073-00	METAL CHIP 10K	5% 1/10W	< CAPACITOR >			
R137	1-216-065-00	METAL CHIP 4.7K	5% 1/10W	C401	1-162-282-31	CERAMIC 100PF	10% 50V (AEP,G,UK)
R138	1-216-049-91	METAL GLAZE 1K	5% 1/10W	C402	1-126-791-11	ELECT 10uF	20% 35V
R139	1-216-033-00	METAL CHIP 220	5% 1/10W	C403	1-162-282-31	CERAMIC 100PF	10% 50V (AEP,G,UK)
R140	1-216-081-00	METAL CHIP 22K	5% 1/10W	C404	1-162-282-31	CERAMIC 100PF	10% 50V (AEP,G,UK)
R141	1-216-061-00	METAL CHIP 3.3K	5% 1/10W	C405	1-162-282-31	CERAMIC 100PF	10% 50V (AEP,G,UK)
R142	1-216-061-00	METAL CHIP 3.3K	5% 1/10W	C406	1-126-791-11	ELECT 10uF	20% 35V
R143	1-216-121-91	METAL GLAZE 1M	5% 1/10W				
R144	1-216-073-00	METAL CHIP 10K	5% 1/10W				
R145	1-216-097-91	METAL GLAZE 100K	5% 1/10W				
R146	1-216-097-91	METAL GLAZE 100K	5% 1/10W				
R147	1-216-049-91	METAL GLAZE 1K	5% 1/10W				
R148	1-216-049-91	METAL GLAZE 1K	5% 1/10W				
R149	1-216-049-91	METAL GLAZE 1K	5% 1/10W				
R150	1-216-037-00	METAL CHIP 330	5% 1/10W				
R151	1-216-037-00	METAL CHIP 330	5% 1/10W				
R152	1-216-037-00	METAL CHIP 330	5% 1/10W				
R154	1-216-065-00	METAL CHIP 4.7K	5% 1/10W				

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
C407	1-162-282-31	CERAMIC	100PF 10% 50V (AEP,G,UK)	< TRANSISTOR >			
C408	1-162-282-31	CERAMIC	100PF 10% 50V (AEP,G,UK)	Q401	8-729-422-57	TRANSISTOR UN4111	
C426	1-164-159-11	CERAMIC	0.1uF 50V	Q404	8-729-620-05	TRANSISTOR 2SC2603-EF	
C430	1-164-159-11	CERAMIC	0.1uF 50V	< RESISTOR >			
C431	1-164-159-11	CERAMIC	0.1uF 50V	R401	1-249-426-11	CARBON 5.6K 5% 1/4W	
C432	1-126-059-11	ELECT	10uF 20% 50V	R402	1-249-427-11	CARBON 6.8K 5% 1/4W	F
C433	1-126-059-11	ELECT	10uF 20% 50V	R403	1-249-413-11	CARBON 470 5% 1/4W	F
C436	1-164-159-11	CERAMIC	0.1uF 50V	R404	1-249-441-11	CARBON 100K 5% 1/4W	
C437	1-126-934-11	ELECT	220uF 20% 16V	R405	1-249-413-11	CARBON 470 5% 1/4W	F
C438	1-164-159-11	CERAMIC	0.1uF 50V	R407	1-249-417-11	CARBON 1K 5% 1/4W	F
C450	1-164-159-11	CERAMIC	0.1uF 50V	R408	1-249-441-11	CARBON 100K 5% 1/4W	
C451	1-161-494-00	CERAMIC	0.022uF 25V	R409	1-249-409-11	CARBON 220 5% 1/4W	F
C493	1-164-159-11	CERAMIC	0.1uF 50V	R410	1-249-441-11	CARBON 100K 5% 1/4W	
C501	1-162-282-31	CERAMIC	100PF 10% 50V (AEP,G,UK)	R411	1-249-409-11	CARBON 220 5% 1/4W	F
C502	1-126-791-11	ELECT	10uF 20% 35V	R412	1-249-441-11	CARBON 100K 5% 1/4W	
C503	1-162-282-31	CERAMIC	100PF 10% 50V (AEP,G,UK)	R415	1-249-437-11	CARBON 47K 5% 1/4W	
C504	1-162-282-31	CERAMIC	100PF 10% 50V (AEP,G,UK)	R416	1-249-437-11	CARBON 47K 5% 1/4W	
C505	1-162-282-31	CERAMIC	100PF 10% 50V (AEP,G,UK)	R417	1-249-437-11	CARBON 47K 5% 1/4W	
C506	1-126-791-11	ELECT	10uF 20% 35V	R418	1-249-433-11	CARBON 22K 5% 1/4W	
C507	1-162-282-31	CERAMIC	100PF 10% 50V (AEP,G,UK)	R430	1-247-807-31	CARBON 100 5% 1/4W	
C508	1-162-282-31	CERAMIC	100PF 10% 50V (AEP,G,UK)	R431	1-249-417-11	CARBON 1K 5% 1/4W	F
< CONNECTOR >				R432	1-249-393-11	CARBON 10 5% 1/4W	F
CN401	1-770-406-11	CONNECTOR, BOARD TO BOARD 10P		R433	1-249-429-11	CARBON 10K 5% 1/4W	
CN402	1-779-968-11	SOCKET, CONNECTOR		R434	1-260-095-11	CARBON 470 5% 1/2W	
* CN403	1-774-813-11	CONNECTOR, BOARD TO BOARD 7P(AEP,G,UK)		R435	1-249-433-11	CARBON 22K 5% 1/4W	
* CN404	1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P		R436	1-249-433-11	CARBON 22K 5% 1/4W	
CN407	1-770-408-11	CONNECTOR, BOARD TO BOARD 14P		R437	1-247-807-31	CARBON 100 5% 1/4W	
CN410	1-778-310-11	PLUG, CONNECTOR 2P		R438	1-247-807-31	CARBON 100 5% 1/4W	
< JACK >				R439	1-247-807-31	CARBON 100 5% 1/4W	
CNJ401	1-770-501-11	JACK 10P (MD)		R440	1-247-807-31	CARBON 100 5% 1/4W	
CNJ402	1-770-501-11	JACK 10P (TAPE)		R441	1-247-807-31	CARBON 100 5% 1/4W	
< DIODE >				R461	1-247-843-11	CARBON 3.3K 5% 1/4W	
D401	8-719-911-19	DIODE 1SS119		R462	1-249-429-11	CARBON 10K 5% 1/4W	
D402	8-719-911-19	DIODE 1SS119		R495	1-247-843-11	CARBON 3.3K 5% 1/4W	
D403	8-719-911-19	DIODE 1SS119		R501	1-249-426-11	CARBON 5.6K 5% 1/4W	
D404	8-719-933-39	DIODE HZS6C1L		R502	1-249-427-11	CARBON 6.8K 5% 1/4W	F
D405	8-719-911-19	DIODE 1SS119		R503	1-249-413-11	CARBON 470 5% 1/4W	F
D406	8-719-911-19	DIODE 1SS119 (AEP,G,UK)		R504	1-249-441-11	CARBON 100K 5% 1/4W	
D407	8-719-911-19	DIODE 1SS119 (AEP,G,UK)		R505	1-249-413-11	CARBON 470 5% 1/4W	F
D408	8-719-911-19	DIODE 1SS119 (AEP,G,UK)		R507	1-249-417-11	CARBON 1K 5% 1/4W	F
< IC >				R508	1-249-441-11	CARBON 100K 5% 1/4W	
IC401	8-759-195-14	IC SC027MG051BCP		R509	1-249-409-11	CARBON 220 5% 1/4W	F
IC402	8-759-195-21	IC SC027MG066BF-T1		R510	1-249-441-11	CARBON 100K 5% 1/4W	
IC403	8-759-195-21	IC SC027MG066BF-T1		R511	1-249-409-11	CARBON 220 5% 1/4W	F
IC501	8-759-195-14	IC SC027MG051BCP		R512	1-249-441-11	CARBON 100K 5% 1/4W	
< JACK >				R561	1-247-843-11	CARBON 3.3K 5% 1/4W	
J401	1-573-028-31	JACK, PIN 4P (VIDEO/PC(L-IN,L-OUT,R-IN,R-OUT))		R562	1-249-429-11	CARBON 10K 5% 1/4W	
J402	1-779-940-11	CONNECTOR, COAXIAL (ANTENNA(AM,FM75))		< TUNER UNIT >			
				TB401	1-233-654-11	ENCAPSULATED COMPONENT (SP,MY,HK,JE)	
				TB401	1-234-028-11	ENCAPSULATED COMPONENT (UK)	
				TB401	1-693-377-11	TUNER (AEP,G)	

HP	MOTOR	PANEL
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Ref. No.	Part No.	Description	Remarks
*	1-667-387-11	HP BOARD *****	
		< CAPACITOR >	
C491	1-162-294-31	CERAMIC 0.001uF 10%	50V
C591	1-162-294-31	CERAMIC 0.001uF 10%	50V
		< JACK >	
J660	1-764-106-21	JACK (PHONES)	

*	1-653-379-51	MOTOR BOARD *****	
		< JACK >	
CNJ303	1-770-348-21	CONNECTOR, FPC 7P	
		< SWITCH >	
S301	1-571-754-31	SWITCH, PUSH (1 KEY)	

*	A-4403-540-A	PANEL BOARD, COMPLETE (SP,MY,HK,JE) *****	
*	A-4403-560-A	PANEL BOARD, COMPLETE (AEP,G) *****	
*	A-4403-727-A	PANEL BOARD, COMPLETE (UK) *****	
*	4-932-810-11	CUSHION (FL)	
*	4-994-815-01	HOLDER (FL)	
		< CAPACITOR >	
C701	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C702	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C703	1-126-157-11	ELECT 10uF 20%	16V
C704	1-124-584-00	ELECT 100uF 20%	10V
C705	1-104-905-11	CAPACITOR 0.22F	5.5V
C706	1-126-157-11	ELECT 10uF 20%	16V
C707	1-164-489-11	CERAMIC CHIP 0.22uF 10%	16V
C708	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C709	1-163-275-11	CERAMIC CHIP 0.001uF 5%	50V
C710	1-101-004-00	CERAMIC 0.01uF	50V
C711	1-102-958-00	CERAMIC 20PF 5%	50V
C712	1-102-958-00	CERAMIC 20PF 5%	50V
C713	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C715	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C716	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C717	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C718	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C719	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C720	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C721	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C722	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C723	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C724	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C725	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C726	1-163-251-11	CERAMIC CHIP 100PF 5%	50V

Ref. No.	Part No.	Description	Remarks
C727	1-163-251-11	CERAMIC CHIP 100PF 5%	50V
C728	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C729	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C730	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C731	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C751	1-126-154-11	ELECT 47uF 20%	6.3V
C752	1-165-319-11	CERAMIC CHIP 0.1uF	50V
		< CONNECTOR >	
* CN701	1-568-842-11	SOCKET, CONNECTOR 27P	
CN702	1-779-970-11	PLUG, CONNECTOR	
CN703	1-779-938-11	CONNECTOR, BOARD TO BOARD 8P	
CN752	1-580-918-11	HOUSING, CONNECTOR 5P	
		< DIODE >	
D701	8-719-016-74	DIODE 1SS352	
D702	8-719-016-74	DIODE 1SS352	
D703	8-719-210-33	DIODE EC10DS2	
D704	8-719-210-33	DIODE EC10DS2	
		< FILTER >	
FL701	1-517-701-11	INDICATOR TUBE, FLUORESCENT	
		< IC >	
IC701	8-759-481-03	IC uPD780206GF-023-3BA	
IC751	8-759-459-84	IC NJL56H400 (REMOTE SENSOR)	
IC850	8-759-165-80	IC PST600C-T	
		< COIL >	
L701	1-412-344-41	INDUCTOR 22uH	
		< TRANSISTOR >	
Q701	8-729-424-59	TRANSISTOR UN2212	
Q704	8-729-421-22	TRANSISTOR UN2211	
		< RESISTOR >	
R701	1-216-073-00	METAL CHIP 10K 5%	1/10W
R702	1-216-073-00	METAL CHIP 10K 5%	1/10W
R704	1-216-073-00	METAL CHIP 10K 5%	1/10W
R706	1-216-025-91	METAL GLAZE 100 5%	1/10W
R707	1-216-029-00	METAL CHIP 150 5%	1/10W
R708	1-216-089-91	METAL GLAZE 47K 5%	1/10W
R709	1-216-089-91	METAL GLAZE 47K 5%	1/10W
R710	1-216-025-91	METAL GLAZE 100 5%	1/10W
R711	1-216-025-91	METAL GLAZE 100 5%	1/10W
R712	1-216-025-91	METAL GLAZE 100 5%	1/10W
R713	1-216-025-91	METAL GLAZE 100 5%	1/10W
R714	1-216-025-91	METAL GLAZE 100 5%	1/10W
R715	1-216-025-91	METAL GLAZE 100 5%	1/10W
R716	1-216-025-91	METAL GLAZE 100 5%	1/10W
R717	1-216-025-91	METAL GLAZE 100 5%	1/10W
R718	1-216-025-91	METAL GLAZE 100 5%	1/10W
R719	1-216-025-91	METAL GLAZE 100 5%	1/10W
R720	1-216-025-91	METAL GLAZE 100 5%	1/10W
R721	1-216-017-91	METAL GLAZE 47 5%	1/10W
R722	1-216-017-91	METAL GLAZE 47 5%	1/10W

POWER

POWER IC

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
C962	1-162-306-11	CERAMIC	0.01uF 20% 16V	< RESISTOR >			
C963	1-162-306-11	CERAMIC	0.01uF 20% 16V	R801	1-249-417-11	CARBON	1K 5% 1/4W F
C965	1-126-233-11	ELECT	22uF 20% 50V	R802	1-247-870-11	CARBON	43K 5% 1/4W
C966	1-164-159-11	CERAMIC	0.1uF 50V	R803	1-249-417-11	CARBON	1K 5% 1/4W F
C967	1-126-923-11	ELECT	220uF 20% 10V	R807	1-260-091-11	CARBON	220 5% 1/2W
< CONNECTOR >				R809	1-249-437-11	CARBON	47K 5% 1/4W
* CN802	1-569-493-11	SOCKET, CONNECTOR 7P		R810	1-249-441-11	CARBON	100K 5% 1/4W
* CN806	1-562-334-00	SOCKET, CONNECTOR 10P		R811	1-249-441-11	CARBON	100K 5% 1/4W
* CN908	1-506-469-11	PIN, CONNECTOR 4P		R813	1-249-438-11	CARBON	56K 5% 1/4W
CN912	1-568-838-11	SOCKET, CONNECTOR 21P		△ R814	1-219-122-91	FUSIBLE	0.33 5% 1/4W F
* CN913	1-770-656-11	CONNECTOR, FFC/FPC 28P		R841	1-249-441-11	CARBON	100K 5% 1/4W
* CN916	1-568-842-11	SOCKET, CONNECTOR 27P		R851	1-249-417-11	CARBON	1K 5% 1/4W F
* CN917	1-568-951-11	PIN, CONNECTOR 2P		R852	1-247-870-11	CARBON	43K 5% 1/4W
< DIODE >				R853	1-249-417-11	CARBON	1K 5% 1/4W F
D801	8-719-911-19	DIODE	1SS119	R857	1-260-091-11	CARBON	220 5% 1/2W
D802	8-719-911-19	DIODE	1SS119	R859	1-249-438-11	CARBON	56K 5% 1/4W
D803	8-719-911-19	DIODE	1SS119	△ R901	1-208-737-51	FUSIBLE	2.2 5% 1/4W F
D901	8-719-025-03	DIODE	RBA-402-SL	△ R912	1-212-958-00	FUSIBLE	10 5% 1/2W F
D902	8-719-200-02	DIODE	10E2	△ R915	1-219-122-91	FUSIBLE	0.33 5% 1/4W F
D903	8-719-200-02	DIODE	10E2	△ R916	1-219-122-91	FUSIBLE	0.33 5% 1/4W F
D904	8-719-200-82	DIODE	11ES2	R931	1-249-421-11	CARBON	2.2K 5% 1/4W F
D905	8-719-200-82	DIODE	11ES2	R932	1-249-409-11	CARBON	220 5% 1/4W F
D906	8-719-200-82	DIODE	11ES2	R944	1-249-437-11	CARBON	47K 5% 1/4W
D907	8-719-200-82	DIODE	11ES2	R945	1-247-807-31	CARBON	100 5% 1/4W
D910	8-719-001-79	DIODE	UZL-12H1-TP	R946	1-247-807-31	CARBON	100 5% 1/4W
D934	8-719-200-02	DIODE	10E2	△ R947	1-219-122-91	FUSIBLE	0.33 5% 1/4W F
D935	8-719-200-02	DIODE	10E2	< RELAY >			
D936	8-719-200-02	DIODE	10E2	RY801	1-755-126-11	RELAY	
D938	8-719-911-19	DIODE	1SS119	< THERMISTOR(POSITIVE) >			
D941	8-719-933-39	DIODE	HZS6C1L	THP801	1-801-829-11	THERMISTOR, POSITIVE	
< TERMINAL >				*****			
EPT901	1-537-771-21	TERMINAL BOARD, GROUND		* 1-667-823-11	POWER IC BOARD		
< IC >				*****			
IC802	8-759-165-80	IC	PST600C-T	< CAPACITOR >			
IC901	8-749-923-04	IC	TOTX178 (CD OPTICAL DIGITAL OUT)	C807	1-162-219-31	CERAMIC	68PF 5% 50V
IC931	8-759-231-53	IC	TA7805S	C831	1-164-159-11	CERAMIC	0.1uF 50V
IC932	8-759-604-86	IC	M5F7807L	C857	1-162-219-31	CERAMIC	68PF 5% 50V
IC933	8-759-231-53	IC	TA7805S	C881	1-164-159-11	CERAMIC	0.1uF 50V
IC941	8-759-633-42	IC	M5293L	< CONNECTOR >			
< COIL >				* CN805	1-506-608-11	PIN, CONNECTOR 10P	
L901	1-408-413-00	INDUCTOR	22uH	< IC >			
L902	1-410-322-11	INDUCTOR	3.3uH	IC801	8-759-333-24	IC	LM1876TF
< TRANSISTOR >				< RESISTOR >			
Q801	8-729-900-80	TRANSISTOR	DTC114ES	R804	1-249-437-11	CARBON	47K 5% 1/4W
Q802	8-729-620-05	TRANSISTOR	2SC2603-EF	R831	1-249-389-11	CARBON	4.7 5% 1/4W F
Q803	8-729-620-05	TRANSISTOR	2SC2603-EF	R854	1-249-437-11	CARBON	47K 5% 1/4W
Q804	8-729-620-05	TRANSISTOR	2SC2603-EF	R881	1-249-389-11	CARBON	4.7 5% 1/4W F
Q805	8-729-422-57	TRANSISTOR	UN4111	*****			
Q910	8-729-202-67	TRANSISTOR	2SK246-GR3				
Q911	8-729-021-82	TRANSISTOR	2SD2396K				
Q931	8-729-140-97	TRANSISTOR	2SB734-34				

The components identified by mark △ or dotted line with mark △ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remarks				Ref. No.	Part No.	Description	Remarks			
*	A-4403-527-A	PRE BOARD, COMPLETE *****							< CONNECTOR >				
		< CAPACITOR >					CN420	1-770-383-11	CONNECTOR, BOARD TO BOARD 14P				
							* CN421	1-568-864-11	SOCKET, CONNECTOR 21P				
							CN422	1-770-381-11	CONNECTOR, BOARD TO BOARD 10P				
							CN423	1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P				
									< DIODE >				
							D921	8-719-001-21	DIODE UZL-9H1				
							D922	8-719-001-21	DIODE UZL-9H1				
									< IC >				
							IC404	8-759-711-35	IC NJM4580D				
							IC410	8-759-275-23	IC BU2092				
							IC422	8-759-195-20	IC SC027MG066BCP				
							IC423	8-759-195-16	IC SC027MG052BCP				
							IC424	8-759-070-78	IC TC9211P				
							IC430	8-759-711-35	IC NJM4580D				
							IC530	8-759-711-35	IC NJM4580D				
									< TRANSISTOR >				
							Q420	8-729-422-57	TRANSISTOR UN4111				
							Q421	8-729-422-57	TRANSISTOR UN4111				
							Q422	8-729-900-80	TRANSISTOR DTC114ES				
							Q424	8-729-141-30	TRANSISTOR 2SC3623A-LK				
							Q524	8-729-141-30	TRANSISTOR 2SC3623A-LK				
							Q921	8-729-140-96	TRANSISTOR 2SD774-34				
							Q924	8-729-140-97	TRANSISTOR 2SB734-34				
									< RESISTOR >				
							R421	1-249-437-11	CARBON 47K 5% 1/4W				
							R422	1-249-441-11	CARBON 100K 5% 1/4W				
							R423	1-249-417-11	CARBON 1K 5% 1/4W F				
							R424	1-249-429-11	CARBON 10K 5% 1/4W				
							R425	1-247-887-00	CARBON 220K 5% 1/4W				
							R426	1-249-442-11	CARBON 510 5% 1/4W				
							R427	1-247-858-11	CARBON 13K 5% 1/4W				
							R428	1-249-421-11	CARBON 2.2K 5% 1/4W F				
							R429	1-249-429-11	CARBON 10K 5% 1/4W				
							R442	1-249-428-11	CARBON 8.2K 5% 1/4W F				
							R443	1-247-887-00	CARBON 220K 5% 1/4W				
							R444	1-249-437-11	CARBON 47K 5% 1/4W				
							R445	1-249-431-11	CARBON 15K 5% 1/4W				
							R446	1-249-435-11	CARBON 33K 5% 1/4W				
							R448	1-249-435-11	CARBON 33K 5% 1/4W				
							R449	1-249-421-11	CARBON 2.2K 5% 1/4W F				
							R450	1-247-807-31	CARBON 100 5% 1/4W				
							R451	1-249-426-11	CARBON 5.6K 5% 1/4W				
							R460	1-247-887-00	CARBON 220K 5% 1/4W				
							R470	1-247-807-31	CARBON 100 5% 1/4W				
							R472	1-247-807-31	CARBON 100 5% 1/4W				
							R473	1-247-807-31	CARBON 100 5% 1/4W				
							R474	1-247-807-31	CARBON 100 5% 1/4W				
							R475	1-247-807-31	CARBON 100 5% 1/4W				
							R476	1-247-807-31	CARBON 100 5% 1/4W				
							R478	1-249-417-11	CARBON 1K 5% 1/4W F				
							R479	1-249-425-11	CARBON 4.7K 5% 1/4W F				
							R481	1-247-807-31	CARBON 100 5% 1/4W				
							R482	1-247-807-31	CARBON 100 5% 1/4W				
							R483	1-247-807-31	CARBON 100 5% 1/4W				

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
R484	1-247-807-31	CARBON	100 5% 1/4W			< COIL >	
R485	1-247-807-31	CARBON	100 5% 1/4W				
R486	1-249-437-11	CARBON	47K 5% 1/4W	L601	1-410-977-11	INDUCTOR 100uH	
R487	1-249-437-11	CARBON	47K 5% 1/4W			< RESISTOR >	
R488	1-249-432-11	CARBON	18K 5% 1/4W				
R489	1-249-437-11	CARBON	47K 5% 1/4W	R601	1-249-401-11	CARBON 47 5% 1/4W	F
R490	1-249-437-11	CARBON	47K 5% 1/4W	R602	1-249-441-11	CARBON 100K 5% 1/4W	
R491	1-249-413-11	CARBON	470 5% 1/4W	R603	1-249-441-11	CARBON 100K 5% 1/4W	
R493	1-249-413-11	CARBON	470 5% 1/4W	R604	1-249-426-11	CARBON 5.6K 5% 1/4W	
R494	1-249-413-11	CARBON	470 5% 1/4W	R605	1-249-429-11	CARBON 10K 5% 1/4W	
R521	1-249-437-11	CARBON	47K 5% 1/4W	R606	1-249-405-11	CARBON 100 5% 1/4W	F
R522	1-249-441-11	CARBON	100K 5% 1/4W	R607	1-249-417-11	CARBON 1K 5% 1/4W	F
R523	1-249-417-11	CARBON	1K 5% 1/4W			< VIBRATOR >	
R524	1-249-429-11	CARBON	10K 5% 1/4W	X601	1-579-900-21	VIBRATOR, CRYSTAL 4.332MHz	
R525	1-247-887-00	CARBON	220K 5% 1/4W			*****	
R526	1-249-442-11	CARBON	510 5% 1/4W				
R527	1-247-858-11	CARBON	13K 5% 1/4W	*	1-667-822-11	RELAY BOARD	
R528	1-249-421-11	CARBON	2.2K 5% 1/4W			*****	
R529	1-249-429-11	CARBON	10K 5% 1/4W			< CAPACITOR >	
R542	1-249-428-11	CARBON	8.2K 5% 1/4W				
R543	1-247-887-00	CARBON	220K 5% 1/4W	C820	1-126-794-11	ELECT 4.7uF 20% 50V	
R544	1-249-437-11	CARBON	47K 5% 1/4W	C821	1-126-177-11	ELECT 100uF 20% 10V	
R545	1-249-431-11	CARBON	15K 5% 1/4W	C822	1-164-159-11	CERAMIC 0.1uF 50V	
R546	1-249-435-11	CARBON	33K 5% 1/4W	C823	1-164-159-11	CERAMIC 0.1uF 50V	
R548	1-249-435-11	CARBON	33K 5% 1/4W	C824	1-164-159-11	CERAMIC 0.1uF 50V	
R549	1-249-421-11	CARBON	2.2K 5% 1/4W			< CONNECTOR >	
R551	1-249-426-11	CARBON	5.6K 5% 1/4W				
R560	1-247-887-00	CARBON	220K 5% 1/4W	* CN812	1-569-502-11	PIN, CONNECTOR 7P	
R921	1-247-843-11	CARBON	3.3K 5% 1/4W	* CN813	1-691-174-11	CONNECTOR (BOARD TO BOARD) 4P	
R925	1-247-843-11	CARBON	3.3K 5% 1/4W	CN814	1-564-506-11	PLUG, CONNECTOR 3P	
*****						< DIODE >	
*	A-4403-559-A	RDS BOARD, COMPLETE (AEP,G,UK)	*****				
		< CAPACITOR >		D820	8-719-933-50	DIODE HZS7C2L	
				D821	8-719-933-39	DIODE HZS6C1L	
C601	1-162-291-31	CERAMIC 560PF 10% 50V		D822	8-719-911-19	DIODE 1SS119	
C602	1-162-306-11	CERAMIC 0.01uF 20% 16V		D823	8-719-911-19	DIODE 1SS119	
C603	1-162-288-31	CERAMIC 330PF 10% 50V				< TRANSISTOR >	
C604	1-126-961-11	ELECT 2.2uF 20% 50V					
C605	1-126-964-11	ELECT 10uF 20% 50V		Q820	8-729-119-76	TRANSISTOR 2SA1175-HFE	
C606	1-162-291-31	CERAMIC 560PF 10% 50V		Q821	8-729-620-05	TRANSISTOR 2SC2603-EF	
C607	1-126-964-11	ELECT 10uF 20% 50V		Q822	8-729-620-05	TRANSISTOR 2SC2603-EF	
C608	1-164-159-11	CERAMIC 0.1uF 50V		Q823	8-729-620-05	TRANSISTOR 2SC2603-EF	
C609	1-126-967-11	ELECT 47uF 20% 16V		Q824	8-729-140-96	TRANSISTOR 2SD774-34	
C610	1-102-518-11	CERAMIC 33PF 5% 50V				< RESISTOR >	
C611	1-102-518-11	CERAMIC 33PF 5% 50V					
C612	1-162-306-11	CERAMIC 0.01uF 20% 16V		R820	1-249-417-11	CARBON 1K 5% 1/4W	F
		< CONNECTOR >		R821	1-249-441-11	CARBON 100K 5% 1/4W	
CN601	1-779-939-11	CONNECTOR, BOARD TO BOARD 7P		R822	1-249-429-11	CARBON 10K 5% 1/4W	
		< DIODE >		R823	1-249-441-11	CARBON 100K 5% 1/4W	
				R824	1-249-413-11	CARBON 470 5% 1/4W	F
D601	8-719-911-19	DIODE 1SS119		△ R825	1-212-966-00	FUSIBLE 22 5% 1/2W	F
		< IC >		R826	1-249-441-11	CARBON 100K 5% 1/4W	
				R827	1-249-441-11	CARBON 100K 5% 1/4W	
IC601	8-759-450-86	IC BU1922		R828	1-249-429-11	CARBON 10K 5% 1/4W	
IC602	8-759-634-51	IC M5218AP				*****	

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Replace only with part number specified.

SENSOR

SP TM

SWITCH

TRANS

VOLSEL

Ref. No.	Part No.	Description	Remarks
*	1-653-378-51	SENSOR BOARD *****	
		< DIODE >	
D801	8-719-045-75	DIODE CL-200IR-X-TU	
D803	8-719-045-75	DIODE CL-200IR-X-TU	
D804	8-719-045-75	DIODE CL-200IR-X-TU	
		< RESISTOR >	
R801	1-216-049-91	METAL GLAZE 1K 5%	1/10W
R803	1-216-049-91	METAL GLAZE 1K 5%	1/10W
R804	1-216-049-91	METAL GLAZE 1K 5%	1/10W
		< SWITCH >	
S802	1-692-441-11	SWITCH, MICROPHONE	

*	1-667-386-11	SP TM BOARD *****	
		< CAPACITOR >	
C806	1-164-159-11	CERAMIC 0.1uF	50V (AEP,G,UK)
C856	1-164-159-11	CERAMIC 0.1uF	50V (AEP,G,UK)
		< CONNECTOR >	
CN803	1-691-161-11	PIN, CONNECTOR 4P	
		< COIL >	
L801	1-420-872-00	COIL, AIR-CORE (AEP,G,UK)	
L851	1-420-872-00	COIL, AIR-CORE (AEP,G,UK)	
		< RESISTOR >	
R805	1-260-076-11	CARBON 10 5%	1/2W (AEP,G,UK)
R806	1-249-393-11	CARBON 10 5%	1/4W F (AEP,G,UK)
R855	1-260-076-11	CARBON 10 5%	1/2W (AEP,G,UK)
R856	1-249-393-11	CARBON 10 5%	1/4W F (AEP,G,UK)
		< TERMINAL >	
TM801	1-537-238-31	TERMINAL BOARD (SPEAKER IMPEDANCE USE 4-16 (L+,L-,R+,R-))	

*	1-667-385-11	SWITCH BOARD *****	
		< CONNECTOR >	
CN751	1-766-928-11	CONNECTOR, BOARD TO BOARD 8P	
		< DIODE >	
D751	8-719-056-12	DIODE SML79420C-TP4 (PLAY/PAUSE)	

Ref. No.	Part No.	Description	Remarks
		< RESISTOR >	
R750	1-249-427-11	CARBON 6.8K 5%	1/4W F
R751	1-249-429-11	CARBON 10K 5%	1/4W
R752	1-247-858-11	CARBON 13K 5%	1/4W
R753	1-249-433-11	CARBON 22K 5%	1/4W
R762	1-249-425-11	CARBON 4.7K 5%	1/4W F
R763	1-249-427-11	CARBON 6.8K 5%	1/4W F
R764	1-249-429-11	CARBON 10K 5%	1/4W
R765	1-247-858-11	CARBON 13K 5%	1/4W
		< SWITCH >	
S751	1-762-875-21	SWITCH, KEYBOARD (DBFB)	
S752	1-762-875-21	SWITCH, KEYBOARD (VOL-)	
S753	1-762-875-21	SWITCH, KEYBOARD (VOL+)	
S754	1-762-875-21	SWITCH, KEYBOARD (FUNCTION)	
S762	1-762-875-21	SWITCH, KEYBOARD (BAND)	
S763	1-762-875-21	SWITCH, KEYBOARD (TUNE-/◀◀/▶▶)	
S764	1-762-875-21	SWITCH, KEYBOARD (TUNE+/▶▶/▶▶)	
S765	1-762-875-21	SWITCH, KEYBOARD (▶▶PLAY/PAUSE)	
S766	1-762-875-21	SWITCH, KEYBOARD (■)	

*	1-667-384-11	TRANS BOARD *****	
	1-533-293-11	FUSE HOLDER	
		< CONNECTOR >	
* CN902	1-573-047-11	PIN, CONNECTOR (PC BOARD) 2P	
CN905	1-691-770-11	PLUG (MICRO CONNECTOR) 8P	
		< FUSE >	
△ F901	1-532-388-51	FUSE TIME, LAG 2A/250V	

*	1-667-382-11	VOLSEL BOARD (MY, SP, HK, JE) *****	
	1-533-293-11	FUSE HOLDER	
		< CONNECTOR >	
* CN920	1-564-507-11	PLUG, CONNECTOR 4P	
		< FUSE >	
△ F902	1-532-505-51	FUSE TIME, LAG 5A/250V	
△ F903	1-532-505-51	FUSE TIME, LAG 5A/250V	
		< SWITCH >	
△ S901	1-554-752-11	SELECTOR, POWER VOLTAGE (VOLTAGE SELECTOR)	

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Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
		MISCELLANEOUS				*****	
		*****				HARDWARE LIST	
		*****				*****	
13	1-782-805-11	WIRE (FLAT TYPE) (5 CORE)		#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
14	1-782-781-11	WIRE (FLAT TYPE) (27 CORE)		#2	7-685-871-09	SCREW +BVTT 3X6 (S)	
54	1-782-780-11	WIRE (FLAT TYPE) (21 CORE)		#3	7-685-862-09	SCREW +BVTT 2.6X6 (S)	
58	1-698-997-11	FAN, DC		#4	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
△ 65	1-776-060-11	CORD, POWER (EXCEPT UK)		#5	7-685-871-01	SCREW +BVTT 3X6 (S)	
△ 65	1-776-061-21	CORD, POWER (UK)		#6	7-621-772-60	SCREW +B 2X12	
△ 72	1-569-008-11	ADAPTOR, CONVERSION 2P (SP,MY)		#7	7-627-852-17	+P 1.7X4	
△ 73	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (HK)		#8	7-627-553-37	SCREW , PRECISION +P2X3	
△ 152	8-848-283-11	OPTICAL PICK-UP KSS-313A		#9	7-627-553-67	SCREW , PRECISION +P2X5	
M101	X-3367-484-2	MOTOR (SP) ASSY (SPINDLE)		#10	7-685-851-01	SCREW +BVTT 2X4 (S)	
M102	A-3252-585-A	MOTOR (SL) ASSY (SLED)		<div>The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.</div>			
M103	A-3252-580-A	MOTOR (L) ASSY (LOADING)					
△ T901	1-431-559-11	TRANSFORMER, POWER (AEP,G,UK)					
△ T901	1-431-560-11	TRANSFORMER, POWER (SP,MY,HK,JE)					
